

## THE PROBLEM OF NUTRITION IN INDIA AND SOME ASIAN COUNTRIES

In the opening years of the twentieth century the concept of nutrition centred round the idea of adequacy. It was generally believed that if an individual had enough to eat there was no need to worry. Unfortunately one did not know for certain whether all human beings had enough to eat. With the advance in the science of nutrition it was gradually realised that not only the quantity but quality of the diet was an important consideration in the maintenance of health. With the discovery of deficiency diseases and their relation to faulty diets thinking people in many countries began to ask questions. Foodstuffs were analysed by the thousand and their quality in terms of essential nutrients was determined. Next followed the dietary surveys carried out in all parts of the world. Meanwhile, the knowledge about the basic requirements with regard to dietary needs was advancing steadily. The knowledge thus gained was applied to study the needs of communities. It soon became apparent that many communities subsisted on faulty and even insufficient diets. In the more advanced and richer countries the number of malnourished people was small although it was appreciable. In backward and poorer countries malnourishment was found to be widespread and what was more painful to find was that a fair proportion of the population was undernourished as well. If this was so, who was responsible for this state of affairs, the individual, the community or the state? The answer to this question has been forthcoming only recently.

In 1943, the United Nations' Conference on Food and Agriculture held at Hot-Springs, USA during the war declared that 'the primary responsibility lies with each nation for seeing that its own people have the food needed for life and health, steps to this end are for national determination. But each nation can fully achieve its goal only if all work together'. Thus the responsibility of the state in ensuring adequate nutrition for all of its citizens has now come to be accepted. The Nutrition Advisory Committee of the Government of India took this view fully into consideration when it recommended in 1944 that 'the welfare of a people is so dependent on good nutrition that governments must assume responsibility for assuring it by all means in their power'. It must therefore be emphasised that the problem of nutrition which has become acute in most Asian countries can only be solved if attacked by the governments concerned. Piecemeal efforts by lesser agencies are doomed to failure, this problem has reached a stage when it can no longer be ignored without causing almost incalculable damage to the health of the present and the succeeding generations. The problem itself can be stated in simple terms since it ultimately resolves itself into (a) the production of food in quantity sufficient to meet at least the basic needs of the population and (b) to increase the purchasing power of the people so that even the poorest among them can afford to purchase all that he needs for nourishment. Stating the problem thus is probably over-simplifying it. A moment's thought, however, will convince anyone that the entire range of a nation's activities are incorporated in these two sentences.

Till recently state administrations had a tendency to believe that nutrition was the sole responsibility of the Health Ministry and that no other Department

of State need bother about it. Fortunately for the people that idea has given way to a broader conception of the ramifications of the problem.

The production of food presupposes a very active Agricultural Department of the State. The agricultural produce has to be supplemented by food obtained from other sources such as milk, meat, eggs and products of inland and marine fisheries. Much of the food thus produced would go waste if adequate facilities for quick transport and preservation are not readily made available. The economics of food production and marketing also require close study in the interests of the producer as well as the consumer. The health organisation has the function of keeping a watch over the quality of marketed food and watching the effect on the health of the population of the shortage of food of any particular kind, or of all kinds. It has also the role of educating the public to eat the right kind of food, and to set up standards for requirements or allowances which should act as a guide for food production and distribution. It will thus be realised that co-ordinated action on the part of the whole administration is the only way in which the problems of nutrition can be satisfactorily solved.

Although basically the problem is the same for all nations in the world, it is bound to be different in details even for countries on the one continent of Asia. The area covered is vast spreading from the polar to the equatorial regions and differing in climate, racial distribution, density of population, dietary habits and the nature of the soil. It is natural, therefore, that local conditions would determine to a great extent the nature of the actual problem. The scientific knowledge on nutrition gained during the last twenty years, however, permits discussion of these on a common basis of certain fundamental principles.

The information relating to nutrition in different countries in Asia has been extremely limited. There is almost a complete lack of knowledge concerning Soviet Asia and countries of the Middle East. A certain amount of information used to be available before the World War II from China, Japan, Philippines, Indonesia and the British Colonies in Asia. The war, among other things that it did, put an end to this. Some authoritative accounts are obtainable, however, from the following publications: (1) *Report of the Inter Governmental Conference of Far Eastern Countries on Rural Hygiene* held at Bandoeng in Java (1936), (2) *The Proceedings of the 10th Conference of the Far Eastern Association of Tropical Medicine* held in 1938 at Hanoi in French Indo China, (3) *The Report on Nutrition in the Colonial Empire* published in 1939 by the Committee on Nutrition in the Colonial Empire under the auspices of the Economic Advisory Council of Great Britain and (4) 'A Review on Nutrition' by Van Veen of Batavia appearing in Volume XI (1942) of the *Annual Review of Biochemistry*. The reports of (a) the Nutrition Advisory Committee of the Indian Research Fund Association—which is also the National Nutrition Advisory Committee for India—since 1936 to date and (b) the Health Survey and Development Committee of the Government of India (1946) have been extensively drawn upon for information concerning India.

A study of all these reports points to the following general conclusions: (a) In most countries the food produced has not been sufficient to meet the needs of the

people, (b) poverty amongst a great majority of people compels them to remain undernourished, (c) ignorance coupled with prejudices and other psychological factors contribute to prevent the effective use of whatever nutritious food is available, (d) the deficiency diseases and subclinical states of deficiency are quite frequent in all countries under review

Such were the findings before the outbreak of the War in 1939. The conditions have considerably worsened since then and there is hardly any doubt that the ill-effects arising out of all the factors mentioned above have brought the problem of nutrition to its present acute stage. The study of these reports also reveals the fact that the proposed steps towards ameliorating these conditions suggested by the authorities of the various nations concerned follow almost similar lines.

At this stage it would be useful to give in brief some information on nutrition in some of the Asian countries.

*Ceylon* Nearly two-thirds of all food stuffs consumed in Ceylon is imported. Rice is the staple article of diet, two-thirds of which is imported as polished rice. Unpolished rice is eaten in rural areas and in the dry zones of the north. Leafy vegetables, tubers, beans, gourd etc., are used as supplementary articles. Fish is eaten by the poor classes, meat is rarely taken, and milk, and milk products, are seldom used. The diet of the people is deficient slightly in calories, calcium and in vitamins A and B complex. Among the poorer classes deficiency diseases such as phrynodema and sore mouth are common. Much of the blindness is due to lesions resulting from vitamin A deficiency and is preventable. Infant and maternal mortality is also alarmingly large.

*Malaya* Rice is the staple grain supplemented with pulses and vegetables and red palm oil. Fish is the only animal food, milk and meat being rare. The Chinese in Malaya have a better diet, besides rice they eat vegetables, soya beans and pork. Milk has no place in their diet. The diet in rural areas, especially among the poorer classes is deficient in energy value, proteins of high biological value, vitamins and probably minerals too. Beriberi, xerophthalmia and other deficiency diseases are not infrequent.

*Indonesia* Rice, maize, cassava and sweet potatoes form the principal carbohydrate sources. In some parts rice forms the more important article of diet, in others maize takes its place. In rural areas unpolished rice is used, the more affluent classes using the polished variety. The method of cooking rice is interesting in that it is cooked by steaming and not boiled with water. Soya beans, tubers and vegetables supplement the diet which in the main is vegetarian. Along the sea coast fish enters the dietary of the inhabitants. Meat is rarely eaten. Milk is still more rarely taken. The animal proteins and animal fats in the diets are at an extremely low level. The calories vary between 1,800 and 2,600. The general state of the health of the people is not bad. Beriberi is a potential danger mainly to city dwellers. Scurvy, rickets and pellagra are unknown. Xerophthalmia,

keratomalacia and haemeralopia are known to occur in many places Phrynoderma and angular stomatitis are also met with

*Siam* Polished rice together with curry containing small amounts of fish and meat, mashed red pepper with negligible amounts of fish parts or small bits and occasionally vegetables and fruit form the Siamese meal Two meals a day is a common practice The poor dietary has its effect on the health of the people Children and pregnant women are undernourished and malnourished Beriberi is a pressing problem Rickets, goitre, anaemia, vesical calculi, parodontal disease, skin disease, etc., are other common diseases having their origin in a faulty diet

*Philippines* In addition to rice the Filipino diet contains vegetables and fish The last is abundant, cheap and forms an important article of the diet Milk consumption is practically negligible In general, however, the diet is characterised by deficiency of calcium and iodine and vitamins A, B<sub>1</sub> and C The rates of incidence and mortality from beriberi are unusually high Rickets is fairly wide spread and scurvy is not unknown Even the well to do people frequently show signs of malnutrition

*Japan* The population of Japan is 80 millions and the density 374 per square mile Even with intensive farming Japan was not self sufficient with regard to its food Foodstuffs obtained from her colonies and a very well developed fishing industry supplemented the produce of the land Rice, which is the staple cereal, is sometimes supplemented with other cereals like barley, wheat, maize, millet, sweet potato, potato etc Vegetables and fruits, fish and meat are served with rice Soya bean and some pulses are also consumed Sea weed and its products are used as human food Meat and milk consumption is extremely small Beriberi, Scurvy, rickets and eye diseases are frequently met with The infantile mortality for 1934-1939 was 115 per thousand live births

The foodstuffs consumed in Japan have been thoroughly analysed for their nutritive value The Imperial Institute of Nutrition at Tokyo has been interested in all problems connected with practical aspects of nutrition Prof Saiki, the Director, favoured the idea that not only must the daily diet be balanced, but that every meal should be so

During the war food was rationed in Japan, the ration being fairly generous During later stages of the war fish was scarce resulting in protein shortage This may have a deleterious influence on the health and growth of children and adolescents

*Indo-China* Rice is the most important cereal food Maize is eaten where rice is not available Soya bean in its various preparations also features prominently in the dietary of the Indo-Chinese Tapioca, sweet potato, yams and other fruit, root and leafy vegetables supplement the diet Where people can afford it, fruit is also eaten Pork and fish fresh or pickled, supply the animal protein moiety of the diet Milk consumption is practically nil In the poorer classes the diet is often insufficient in quantity and very poorly balanced Beriberi is an important public health problem No information on other deficiency diseases is available

*China* The Chinese diet shows preponderance of cereals with a low proportion of animal food and lack of milk. Rice forms the staple food in South China, while wheat takes the first place in North China. Millet and maize are also used as human food. In 1937 the soya bean consumption was estimated at not more than 4% of the total consumption of staple foods. Roots and tubers and leafy vegetables are commonly used and fruits only rarely. The consumption of meat and fish is very limited. The Chinese diets are deficient in (a) proteins of high biological value, (b) calcium and (c) vitamins A and B<sub>1</sub>. Among the deficiency diseases xerophthalmia, phrynoderma, rickets and osteomalacia are commonly met with. Goitre is endemic in certain regions of North China, whereas beriberi is common in South China. Scurvy and pellagra are comparatively rare.

*India* The Indian diets are also based primarily on cereals. In the provinces of Bengal, Madras and the coastal areas of Bombay province rice forms the staple cereal. On the Deccan plateau rice is largely replaced by millets like 'jowar' (*sorghum vulgare*) and 'bajra' (*Pennisetum typhoideum*). In wheat growing areas of north and west, that is the staple cereal. There are certain regions where mixtures of cereals are used in daily dietaries. In the south another cereal called 'ragi' (*Eleusine coracana*) is the only cereal found in the diet of very poor people. Pulses and vegetable oils form useful adjuncts, vegetables being used sparingly. The use of meat, fish, eggs, milk, and milk products is determined by the economic status of the individual. Fruit is consumed occasionally, mainly during seasons when particular types of fruit are abundant and cheap. In the main, therefore, the poor man's diet in India does not materially differ from that of his opposite number in the other countries mentioned above. The deficiencies are multiple. The diet is insufficient in calories, deficient in calcium, and many vitamins. The influence of this faulty diet is reflected in the health of the population. The infant and maternal mortality is high, the resistance of people to infectious diseases is low and specific deficiency diseases, e.g., night-blindness, Bitot's spots, keratomalacia, beriberi, angular stomatitis, phrynoderma, rickets, simple goitre and anaemias are prevalent.

The information presented thus far shows beyond doubt that the bulk of the people living in the most populated regions of Asia and amounting to nearly half the total population of the globe have been subsisting on faulty and probably insufficient diets. That the respective governments were not unaware of the fact is not in doubt. It can reasonably be concluded that basically the causes for this state of affairs were almost similar. There should be little wonder, therefore, that the remedies suggested have also been somewhat similar. They amounted to (a) intensive and extensive dietary surveys, (b) improvement of methods for the assessment of state of nutrition of representative population groups, (c) evaluation of dietary allowances having regard to local conditions, (d) research, and (e) education and propaganda. It must be emphasised that these steps by themselves are not sufficient as a permanent solution. As has already been pointed out the only solution lies in (i) growing more food of all kinds, (ii) distributing it equitably, (iii) devising ways to utilise it to the fullest extent, and, the last but not the least important, (iv) improving the economic condition of the poorest population groups. These suggestions, simple as they appear, cut across the entire national activities of a people.

and more often than not the administrative difficulties deter the most stout-hearted administrator from attempting to put them in practice. Immediate and drastic action has to be taken and, that too, on a co-ordinated basis by the government of any country if success is to be achieved.

In view of what has been said above it will be instructive to present now a brief account of the manner in which the Nutrition Advisory Committee in India proposed to tackle this problem. The Committee is a representative body and its personnel consists of (a) the Public Health Commissioner with the Government of India (Chairman), (b) the Director of the Nutrition Research Laboratories, Coonoor, (Secretary), (c) other representatives of research workers in nutritional science, (d) one or two Provincial Health administrators, (e) the Agricultural, Animal Husbandry, Food, Education and Economic Advisers with the Government of India and (f) one non-medical scientist of repute. The body thus represents all interests likely to be connected with nutrition and therefore the recommendations of the Nutrition Advisory Committee carry great weight. The Committee meets once or twice a year to (a) take stock of the work on nutrition carried out in different provinces and states of India, (b) consider the research work in progress and the proposals for new investigations and (c) to consider any subject sent to it by Government agencies, provincial or central. It is thus in a unique position to have its finger always on the nutritional pulse of the nation.

In 1943, the then newly appointed Health Survey and Development Committee of the Government of India charged the Nutrition Advisory Committee with the task of preparing a report on Nutrition dealing with '(a) the existence and extent of under and malnutrition in India as shown by agricultural production data and surveys of diet and state of nutrition, (b) Deficiency diseases, (c) Education and Propaganda, (d) Nutrition departments in Provinces and States and public health nutrition work generally, (e) plans for improving nutrition'. It is not necessary to give in detail the deliberations of the Committee. Its recommendations are briefly outlined below.

1. The Government must assume responsibility for ensuring adequate nutrition for every individual.

2. The statistics regarding the production of foods of all kinds whether from soil, stock or sea are extremely inadequate and hence immediate steps should be taken to remedy the situation.

3. Taking into consideration the incomplete and unsatisfactory data of food production and the results of dietary surveys the Committee felt that the total amount of food was grossly inadequate. It therefore urged the Government to take steps immediately to increase the production of food of all kinds. The Government should be guided in this respect by the dietary standards or allowances based upon scientific assessment of the quantity and quality of food required for positive health.

4. The diet surveys carried out in India indicate that the bulk of the population suffers from undernourishment and malnourishment through poverty and ignorance. This is reflected in the high figures for the infant mortality and of women

of child bearing age. The condition also is one of the factors responsible for the low expectation of life in this country. The Government should therefore take all necessary steps to collect accurate mortality and morbidity statistics.

5. The central and provincial public health departments should institute and develop well-equipped and adequately staffed nutrition sections to carry out public health nutrition work in their respective administrative jurisdiction.

Apart from these recommendations certain specific measures were also considered consisting of (a) the special care of vulnerable groups such as the expectant and nursing mothers, and infants and children, (b) encouragement of the social feeding habit and (c) education of (i) specialised nutrition workers, (ii) those who will in turn educate the public and (iii) the public itself.

In the event of the Government deciding to implement these recommendations, the action should logically proceed along the following lines:

- (1) Increase in production of food of all kinds
- (2) Planning for the best utilisation of all available food with special provision for the vulnerable population groups
- (3) Periodical health surveys and checks on the effect of food control on the nutrition of the people
- (4) Education of the public to make them nutrition conscious

### FOOD PRODUCTION

*Total quantity of food.* In India an approximate estimate of food required by 400 million adult males has been attempted. The figures quoted below are from the report of the Twelfth Meeting of the Nutrition Advisory Committee, November 1944.

TABLE I

*Estimated annual requirements of foodstuffs for human consumption*

	<i>In million Tons</i>
Cereals	57
Pulses	12
Vegetables—	
vegetables	16
(1) Green leafy	
(2) Non leafy including tuberous	24
Fruits	12
Sugar and jaggery	8
Fats (oils and ghee)	8
Milk	46
Fish & Meat	9
Eggs	102,000

*Assuming that 30% of the population is vegetarian and would not partake of these foods*

(b) *Dietary allowances* - It is necessary to have some basis for calculating the total food requirements, and it could only be provided if the daily requirements of the population of various age groups were known. A considerable amount of work on the requirements of energy and the essential nutrients such as proteins, vitamins and minerals, etc., has been done in India during the last decade although much more remains to be done. The Nutrition Advisory Committee in November 1944 formulated a table of dietary allowances applicable to Indians and the main consideration in drawing up these allowances can be best expressed in the words of the Committee Report which says, 'Our purpose is to establish objectives for long term planning by assessing the quantities of different foods required to balance the diet and indicating the changes in existing production necessary to attain this end.'

The dietary allowances in terms of the foodstuffs given in Table II are taken from the Nutrition Advisory Committee Report of the Twelfth Meeting

TABLE II

*Composition of a balanced diet*

(Adequate for the maintenance of good health)

	Ounces	Nearest gramme
Cereals	14	398
Pulses	3	85
Vegetables—		
(1) green leafy	4	114
(2) root	3	85
(3) other	3	85
Fruits	3	85
Milk	10	284
Sugar and jaggery	2	57
Vegetable oil, ghee etc	2	57
Fish and meat	3	85
Eggs	one egg	

The present population of India has been estimated at 400 millions. This should be equivalent to 320,000,000, consumption units as the whole population will consist not only of male adults but also of individuals of different age groups. In making provision for 400,000,000 adult males therefore sufficient food will be left over to provide for the special vulnerable groups such as expectant and nursing



mothers and infants and children. From these two sets of data the total food production could be calculated as given in Table I. It must be pointed out, however, that the figures given in Table I are estimates of foodstuffs for human consumption only. The requirements of livestock, seed, wastage etc., have not been considered, for which extra allowance will have to be made.

Similar attempts to set down dietary standards for the people have been made in China, Japan, Philippines and Indonesia. They have helped in estimating the extent of undernourishment and malnourishment prevalent in various strata of population.

That the existing agricultural statistics are not reliable has been mentioned above. Most experts seem to agree, however, that the present food production is grossly insufficient. It will require an all out effort to reach the state of adequacy, even then it may not be possible to achieve it within fifteen to twenty years. The target has now been defined, however, and it is the duty of those concerned with the food policy to see that it is reached within a reasonable period.

## UTILISATION OF AVAILABLE FOOD

Even while the campaign for increased food production is gathering momentum, it should be possible to make the best use of the available food by taking measures designed to promote that end.

(a) *Rationing* The first step to ensure adequate distribution of food in times of shortage is that of rationing. In India rationing was introduced in 1943 and has since then consistently expanded. In March 1943 the population included under the rationing system was 1.9 millions, by the end of June 1946, 130 millions were under the rationing scheme. The system of rationing involves the State procurement of food, for then the responsibility to provide the rationed quantity lies with the State. Storage, transport, price control and effective distribution agencies are other considerations involved in rationing. Lack of accurate knowledge of food production and the administrative difficulties in procuring foodstuffs such as meat, fish, eggs, milk, pulses, fats etc., have made it necessary to confine the rationing in India to cereals and sugar only. Thus all protective foodstuffs have remained uncontrolled and unrationed. In this, rationing in India has been faulty. The scheme provides a minimum of food mainly for energy needs and leaves the individual to find by himself ways and means to obtain the essential foods. The poor do not succeed in this. The result has been that although acute starvation has been avoided, undernourishment and malnutrition are becoming chronic. The ideal condition would have been the rationing of protective food stuffs and the foods providing mainly the energy requirements. Unfortunately it has not been possible in India partly for reasons given below.

Recently some interesting information on food procurement has been made available. During the last three years 50 to 60 million rupees have been spent to support the food production drive. During the same period 910 millions have been

spent in importing food from abroad and an additional 150 million rupees is estimated as the cost of distribution of the imported food to be spent in one year only. The highest agricultural authorities in the Indian government now proclaim that had these vast sums been spent in increasing food production in the country India would never have been in the position of having to beg at the doorstep of other nations for import of food. It is reasonable to state, however, that before the war the Government would never have dreamt of spending even a tooth of the amount for producing more food. To-day India has to pay through the nose for these supplies. It is hoped that this lesson once learnt will never be forgotten.

(b) *Social feeding* In times of food shortage social feeding goes a long way to conserve the available food. This was first tried on a large scale in Soviet Russia during the first Five Year Plan. It is true that the average individual does not take kindly to the idea of social feeding. He looks on it as a last resort. The objections, however, are mainly based on false conceptions. The questions of monotony of diet, infringement of personal liberties, disruption of family life etc., have at one time or other been raised, but a moment's thought will show that they arise from certain preconceived notions and are not based on actual experience. In USSR where the experiment of social feeding has been fostered and carefully watched great strides in improving the diet of the people have been taken by using this very method.

The experiment has demonstrated that (1) improvement in the quality of food made ready for consumption, (2) decrease in wastage of food, (3) lowered cost of preparation, and (4) saving of labour can be achieved by means of social feeding. The preparation of food on a large scale in kitchens attached to factories or on collective farms has made it possible to exercise scientific control for the purposes of retaining the nutritive value of the raw foodstuff in the finished product. Kitchens are kept scrupulously clean and cooking is done under hygienic conditions and proper supervision. Restaurants, attractively decorated and kept scrupulously clean, provide healthy and cheerful surroundings during mealtime to persons who cannot afford these luxuries in their houses. The food is thus eaten and the meal enjoyed in a wholesome environment. A few figures (quoted from *Men, Medicine and Food in USSR* by Le Gros Clark and Noel Brinton) will well illustrate the benefits above referred to. When meals are prepared by families individually it has been estimated that for every 1,000 persons 1,370 work hours a day are spent on preparation of meals. In communal feeding rooms only 120 work hours were required for the same number of persons. In a family with an average of 7 square metres floor space, one square metre per person is used for kitchen purposes, whereas in a communal feeding establishment less than 0.3 sq. metre per person was required for kitchen space. In addition to the saving of time and space considerable labour saving can also be effected. In every house women spend valuable time on cooking. In social feeding programmes most of them would be available for more productive jobs. The wastage of food which accompanies preparation and the plate wastage can also be minimised and whatever wastage occurs can be more easily collected for feeding the livestock.

Thus there is hardly any doubt that resort to social feeding on a large scale sponsored and supervised by the state will provide more nutritious food at less

cost and under hygienic conditions. The schemes are workable in large cities, state and industrial establishments, schools and colleges, etc. With proper control and judicious choice of propaganda methods the scheme can be made a success.

## FEEDING OF VULNERABLE GROUPS

One of the essential requirements for raising a generation of healthy individuals is the adequate care of expectant and nursing women and infants and children. A nutritious diet during these stages of life will have a great influence on the health of the population as a whole. In India the infant, maternal and general mortality rates are high. The experience of those connected with welfare work suggests that deaths among infants and women of child bearing age are due to chronic malnutrition. In 1941 the infant mortality rate was 158 per thousand live births, and it amounted to 24% of all deaths, the corresponding figures for England being 59 per mille and 7%. Further it is to be noted that half the mortality recorded in India in a given year occurs in children under 10 years. The death rate among women is greater than for men for the years 15 to 45 and thus preponderance is due to mortality from child bearing. The anaemias of pregnancy associated with faulty nutrition which by themselves are responsible for many deaths, materially contribute to the decreased resistance to puerperal sepsis which is the main recorded cause of maternal mortality.

Much of this unsatisfactory state of affairs can be remedied by ensuring proper nutrition to these vulnerable groups. In times of food shortage these groups should be given preferential treatment in any food distribution and rationing schemes.

It has been observed in many countries of the Far East and in India too—that the weights and the development of the infant during the first six months of life are comparable to those in European infants. But when the infants in Asian countries are weaned and start receiving faulty diets their growth and health shows deterioration which continues till adolescence. The effects of malnutrition during the stage of development leave their mark for the rest of life. The nutrition of children of pre-school age is thus an intricate problem difficult of solution. The adequate nutrition of poor children of school going age can be ensured, however, by giving them at midday (1) a balanced meal or (2) milk with vitamin supplement, so that at least a major portion of the child's mineral and vitamin requirements would be regularly provided. With the likelihood of compulsory primary education schemes being launched in most provinces a school feeding programme for age groups of 6 to 11 years should represent no insuperable difficulty in India.

## PUBLIC HEALTH AND NUTRITION

### *Deficiency Diseases*

(a) *Vitamin A deficiency* The mildest clinical manifestation is night blindness. When the deficiency becomes chronic it may lead to blindness. Certain skin manifestations such as phrynoderma have been ascribed to this deficiency.

although the evidence is not quite conclusive. Widespread occurrence of diseases to vitamin A deficiency has been reported from India, China, Ceylon, Malaya, Indonesia and Philippines.

(b) *Thiamin deficiency* Beriberi is endemic in several regions under survey. Mention of the extensiveness of its occurrence has been made earlier. In South India, Siam and Philippines its incidence is alarmingly great. Considering that this disease is entirely preventable by the very simple procedure of preventing extreme milling and polishing of rice it is a wonder that the step has not been widely taken by the authorities concerned. During the war complete milling and polishing of rice has been statutorily prevented in many parts of India. What effect it has had on the beriberi incidence is not yet known.

(c) *Deficiency of vitamins of B<sub>2</sub> complex* Mild aribo-flavinosis has also been reported widely. Pellagra in its classical form is not commonly met with. The occurrence of certain non-specific chronic diarrhoeas has been traced to nicotinic acid deficiency, and recently a condition described as burning feet has been reported to yield to pantothenic acid therapy. Some types of macrocytic anaemias are associated with folic acid deficiency. Sprue also has been associated with a general deficiency of vitamins of the B<sub>2</sub> complex.

(d) *Vitamin C deficiency* Fortunately frank scurvy is relatively rare. It must not be thought, however, that chronic state of subnutrition with regard to this vitamin does not exist.

(e) *Vitamin D deficiency* At one time it was believed that rickets which is associated with the deficiency of vitamin D was not found in the tropical countries. Recently it has been shown that it is not so. Rickets has been reported to be fairly common in China and India. Osteomalacia in both these countries is also not infrequently met with.

Nutritional anaemia, nutritional oedema, and simple goitre are diseases having their origin in deficient diets. In addition to these frank manifestations of deficiency the chronic malnutrition in a general way has left its mark on the health and physique of the people.

#### *Other Diseases Associated with Malnutrition*

Faulty nutrition has now come to be accepted as a major contributory factor in determining individual resistance to disease. There are a number of diseases which are directly or indirectly associated with malnutrition. Respiratory diseases—mainly tuberculosis, leprosy, dysentery and other intestinal disorders, peptic ulcer, dental caries, infantile biliary cirrhosis and certain forms of chronic hepatic cirrhosis in adults are only a few selected for mention. Although the role of diet in the etiology of many of these diseases is not quite clear circumstantial evidence is such as to associate them with faulty nutrition as one of the predisposing factors.

The modern trends in public health practice suggest that the scope of the public health administration will have to be considerably widened to include public health nutrition work. The activity of these departments was mainly directed till recently towards (a) the collection of morbidity and mortality statistics, (b) supervision of sanitation and hygiene, (c) supply of prophylactic biological products for prevention of spread of infectious disease, etc. Now they may have to look after the health of the population from a new angle. The Public Health Administration will have to carry out nutrition surveys in rural and urban areas, schools and industrial institutions and suggest means for combating malnutrition. Even in the best fed countries such things are done on a fairly large scale. It is hardly necessary therefore to stress its need for the Asian countries, although it is only fair to mention that a start in this direction has been made.

The supervision and control over the sale of food, prevention of adulteration, control of communal kitchens and restaurants and education of suitable personnel will be other duties in connection with food and nutrition. These functions can only be adequately discharged by properly staffed and equipped nutrition sections in the Public Health Administration.

## EDUCATION AND RESEARCH

*Education* It must have become clear on the strength of what has been said up to now that ignorance of fundamental principles of nutrition not only among the public but probably also among the people who are in charge of public health has been partly responsible for the present state of affairs. One does not need to go far to seek the underlying reason. The science of nutrition is comparatively a new acquisition of mankind. Its phenomenal progress during the last thirty years has been quite bewildering, and knowledge has been accumulating so fast of late that even the scientists often find it difficult to keep pace with it. The nutritional science as a part of physiology and hence also of the general medical curriculum was almost non-existent about twenty years ago. Naturally the public health personnel which graduated in those years and which probably is in charge of the health of people in different countries has had no proper opportunity to grasp the significance of nutrition in the etiology of disease and maintenance of—what we choose to call for want of a better term—positive health. Of course, there are exceptions, especially the workers who had the urge for gaining knowledge and those others who, although being administrators, had the capacity and keenness to apply the knowledge gained by others to practical problems. But their number is exceedingly small.

The first step to improve the nutrition of the people is therefore to so educate the public health workers that the importance of correct nutrition as one of the prime factors in the prevention of disease is fully impressed on their minds, for theirs will be the primary responsibility to look after a nation's health by putting in practice what they learn. The modern trend in the teaching of medicine lays great stress on its preventive aspect and it is good to know that nutrition is one aspect which is no longer ignored.

The health personnel will also consist of non medical men including health visitors and social welfare workers. These latter will have to perform important functions in the future health programme of the country. It should not be difficult to impart to them the basic knowledge of nutrition which can be applied in their work.

The public has recently become highly nutrition conscious, the main reason being, of course, the protracted food shortage. The layman is therefore in a mood for receiving correct information. But this will have to be given in such a way as not to completely upset his own ideas of food. After all, it cannot be denied that prejudices and traditions die hard. One who has been eating rice throughout his life will not take kindly to the suggestion of substituting part or whole of it with wheat or millet and *vice versa*. A thorough knowledge of the dietary habits, their merits and demerits, the nutritive value of local foodstuffs and an understanding of the underlying psychology and the economic limitations of the class of the people whose diet one wants to improve are therefore a few requirements which a nutrition teacher or reformer must possess. A great help in this direction would be the institution of the village, town, district and provincial nutrition committees consisting of scientific workers, public health staff and respectable and intelligent members of the public itself. The incorporation of simple lessons on nutrition in the general science curriculum of the schools is another step which in the long run will certainly yield good results.

**Research** Active research on the fundamental and applied aspects of nutrition is an integral part of any programme devised to attack the problem of nutrition. As the Indian Nutrition Advisory Committee says, 'All progress is based on research and there is abundant evidence that nutrition research can make valuable contributions to human welfare'. In the scientifically advanced countries large sums are annually spent on financing programmes of nutrition research. On the continent of Asia, active nutrition research centres existed before the War in Japan, China, Indonesia, Ceylon and India. Appreciable work was also being done in the Philippines. As a result of the War, however, research work in Japan, China, Indonesia and Philippines must have come practically to a standstill. India was far more fortunate in this connection. The researches on nutrition gathered strength during the War and have been intensified due to continued shortage of food with great benefit to the country as a whole. It is hoped that in the areas devastated by the War, new organisations interested in nutrition research, will be built up and fostered by National Governments as an important nation building activity deserves to be.

## GENERAL ECONOMIC CONSIDERATIONS

It will be unfair to bring this memorandum to a close without making a mention of what may turn out to be the most crucial point. The economic condition of the masses will ultimately determine the fate of the plans designed to improve their nutrition. A discussion of the possible ways and means to increase their purchasing power is beyond the scope of the present note. Besides, a critical appreciation of the issues involved can only be made by a competent economist. It is a pity to note

therefore that on a certain fundamental point such as the average annual income of a poor Indian there has been no unanimity among the Indian economists. Figures varying from Rs 12/- to Rs 65/- have been quoted by various authors as the average *per capita* annual income. These obviously have been arrived at by surveys in different places by different investigators using probably different methods of evaluation. But to a layman it all appears confusing.

In 1941 the average cost of a well balanced diet was computed to be between Rs 4/- to 6/- per person per month. A poor man earning Rs 12/- a year would have to spend Rs 48/- at least to feed himself, obviously an impossible position. Even with the best intention in the world such a person can never hope to obtain a diet which, far from keeping him in positive health, will hardly suffice to keep body and soul together. Based on the estimates of the average *per capita* income and the availability of food, the economists conclude that 30% or more of Indians do not get sufficient food to satisfy their hunger which may possibly be true. The question is whether such a thing can be allowed to exist in any country which lays a claim to be called civilised. If the answer is in the negative, is it not time that something should be done, and sooner the better?

The problem of the higher income groups need not bother us. Where the income exceeds the amount required to purchase basic dietary needs there is some scope for adjustment, sometimes these adjustments to obtain a better quality of the diet are instinctively done. In other cases they can be brought about by educative methods. But the problem of nutrition among the lowest income groups is the most difficult of solution. It is time that all activities of the state and all its talent are utilised to solve this problem, for on its satisfactory solution the existence of a nation is dependent. It would not be an exaggeration to say that the civilisation of a community or state will be judged by the yardstick of its successful efforts in warding off the fear of hunger among the masses.

ASIAN RELATIONS  
CONFERENCE

*March—April 1947*

POPULATION PRESSURE AND  
FOOD SUPPLY IN ASIA

by

V M Paranjpe

GROUP C ECONOMIC DEVELOPMENT & SOCIAL SERVICES

TOPIC 3 AGRICULTURAL RECONSTRUCTION & INDUSTRIAL DEVELOPMENT

INDIAN COUNCIL OF WORLD AFFAIRS  
NEW DELHI



cultivated land or a ratio of cultivated to total area. All these reservations will have to be given due weight when comparing population densities. In countries like New Zealand and Australia, the usage of pasture is a very important factor in the national economy, in Canada forests and minerals support a substantial part of population while in Japan, fish serve as a supplement to the national food supply.

*Population Growth and Trends* Actual numbers by themselves signify little, the rate of growth of population must be considered, for *trends are more important than population status*. 'Growth as contrasted with stagnation or decline counts rather than density, for growth affects the wants, arts and institutions in quite a different way than stagnation does and rapid growth differently from slow growth'.<sup>3</sup>

The nineteenth century saw a general increase in population in every continent and in many countries the growth has not yet slackened. Development of industrialisation and of world trade, of mechanisation of transport and of agricultural methods and rising standards of living and improvements of hygiene and health conditions are factors which explain the rapid growth. Already in the last century, however, signs of change became apparent in certain sections of Europe and United States. Since Great War I crude birth rate has decreased in most of the Western countries. In many cases the effects of a declining birth rate are counterbalanced by a declining death rate. But a low death rate in these countries may be taken to be a passing phenomenon for the death rate must ultimately increase again with increase in the number of aged persons.

In using birth and death figures for Asian countries, it has to be kept in mind that these rates are based on registration and their accuracy therefore depends upon the completeness of registration. It has to be admitted that registration in most of the Asian countries has not reached a high degree of accuracy, hence these statistics have to be handled with the greatest possible caution.

It should be pointed out that many students of population, no longer, consider crude rates of births and deaths or of natural increase sufficiently accurate. They use fertility rates and net reproduction rates.<sup>4</sup> On the basis of fertility and net reproduction rates Kuczynski has divided the countries with adequate statistics into three groups. In the first group are countries in which the rate of reproduction is substantially high to maintain the level of population but in which there is a tendency towards decline. The second group is made up of countries with such a low birth rate that net reproduction rate is no longer high enough to maintain the population at the level of the present generation. The third group has net reproduction rates which promise a continuous increase of population.<sup>5</sup> But because of the lack of data it is not possible to find out the net reproduction rates in various countries and thus forecast the trends of population growth adequately.

## (A) URBANISATION AND OCCUPATIONAL DISTRIBUTION

Urbanisation as an aspect of the population problem deserves greater attention than it has been accorded hitherto. Most census returns classify the populations as urban and rural but the classifications are built upon different criteria in different countries and hence are not comparable. *But it is already sufficiently established that urbanisation generally leads to declining birth rates, as such a country which is highly urbanised tends to show declining rates of birth and death. Very much the same will be the results of data available on occupational distribution. Colin Clark<sup>4</sup> has familiarised the idea that highly industrialised economies have the largest proportions of their populations in tertiary employment. But here also as regards Asian countries such data as exist are highly unreliable and inaccurate.*

*Migrations* Internal population movements are significant but their extent is not ascertainable. Numerically and perhaps in social consequences, the greatest population movement in recent times has been the exodus of the Chinese from areas invaded by Japan to the city of Shanghai, and Manchuria. The movement has been of such gigantic proportions, that occurring in war time, no accurate count was possible. Estimates of those involved vary all the way from 20 to 60 millions.

International migrations are more important as pointers to an already overpopulated state. It is only economic necessity that induces men firmly rooted to the soil to leave their homelands and seek wider horizons where they can eke out, sometimes under very trying and humiliating conditions, a bare existence which is not possible for them at home. This applies to Indian and Chinese migration to South East Asia. These international migrations are of substantial magnitude to justify their detailed consideration.

## (B) ISSUES RELEVANT TO THE CONSIDERATION OF FOOD SUPPLY POSITION

The statistics regarding acreage, outturn, etc. are frequently based upon 'guesstimates' and as such have to be discounted. Even in the limited sphere in which they are expected to be useful their validity is considerably limited. Again most of the Monsoon Asia being a cereal consuming (and that too principally rice) region it is hard to find out what are the supplementary diets, such as meat and fish—which are certainly consumed on a considerable scale but for whose production and consumption it is hard to get data. *For purposes of this study, most of the Asian countries are treated as cereal consuming regions.*

As regards the adequacy of food supply it has to be made clear that the 'nutrition' consciousness which has recently dawned upon the world has made little progress in Asia. People still stick to the old ways of life and their

This Memorandum has been prepared by V M PARANJPE, M A , under the guidance of D G KARVE, Principal of the Briham Maharashtra College of Commerce, Poona

*This paper has been submitted to the Asian Relations Conference by the author  
The author alone is responsible for statements of fact or opinion in this paper*

cultivated land or a ratio of cultivated to total area. All these reservations will have to be given due weight when comparing population densities. In countries like New Zealand and Australia, the usage of pasture is a very important factor in the national economy, in Canada forests and minerals support a substantial part of population while in Japan, fish serve as a supplement to the national food supply.

*Population Growth and Trends* Actual numbers by themselves signify little, the rate of growth of population must be considered, for *trends are more important than population status*. 'Growth as contrasted with stagnation or decline counts rather than density, for growth affects the wants, arts and institutions in quite a different way than stagnation does and rapid growth differently from slow growth'.

The nineteenth century saw a general increase in population in every continent and in many countries the growth has not yet slackened. Development of industrialisation and of world-trade, of mechanisation of transport and of agricultural methods and rising standards of living and improvements of hygiene and health conditions are factors which explain the rapid growth. Already in the last century, however, signs of change became apparent in certain sections of Europe and United States. Since Great War I, crude birth-rate has decreased in most of the Western countries. In many cases the effects of a declining birth rate are counterbalanced by a declining death rate. But a low death-rate in these countries may be taken to be a passing phenomenon for the death-rate must ultimately increase again with increase in the number of aged persons.

In using birth and death figures for Asian countries, it has to be kept in mind that these rates are based on registration and their accuracy therefore depends upon the completeness of registration. It has to be admitted that registration in most of the Asian countries has not reached a high degree of accuracy, hence these statistics have to be handled with the greatest possible caution.

It should be pointed out that many students of population, no longer, consider crude rates of births and deaths or of natural increase sufficiently accurate. They use fertility-rates and net reproduction rates.<sup>4</sup> On the basis of fertility and net reproduction rates Kuczynski has divided the countries with adequate statistics into three groups. In the first group are countries in which the rate of reproduction is substantially high to maintain the level of population but in which there is a tendency towards decline. The second group is made up of countries with such a low birth rate that net reproduction rate is no longer high enough to maintain the population at the level of the present generation. The third group has net reproduction rates which promise a continuous increase of population.<sup>5</sup> But because of the lack of data it is not possible to find out the net reproduction rates in various countries and thus forecast the trends of population growth adequately.

## (A) URBANISATION AND OCCUPATIONAL DISTRIBUTION

Urbanisation as an aspect of the population problem deserves greater attention than it has been accorded hitherto. Most census returns classify the populations as urban and rural but the classifications are built upon different criteria in different countries and hence are not comparable. *But it is already sufficiently established that urbanisation generally leads to declining birth rates, as such a country which is highly urbanised tends to show declining rates of birth and death. Very much the same will be the results of data available on occupational distribution.* Colin Clark<sup>4</sup> has familiarised the idea that highly industrialised economies have the largest proportions of their populations in tertiary employment. But here also as regards Asian countries such data as exist are highly unreliable and inaccurate.

*Migrations:* Internal population movements are significant but their extent is not ascertainable. Numerically and perhaps in social consequences, the greatest population movement in recent times has been the exodus of the Chinese from areas invaded by Japan to the city of Shanghai, and Manchuria. The movement has been of such gigantic proportions, that occurring in war time, no accurate count was possible. Estimates of those involved vary all the way from 20 to 60 millions.

International migrations are more important as pointers to an already overpopulated state. It is only economic necessity that induces men firmly rooted to the soil to leave their homelands and seek wider horizons where they can eke out, sometimes under very trying and humiliating conditions, a bare existence which is not possible for them at home. This applies to Indian and Chinese migration to South East Asia. These international migrations are of substantial magnitude to justify their detailed consideration.

## (B) ISSUES RELEVANT TO THE CONSIDERATION OF FOOD SUPPLY POSITION

The statistics regarding acreage, output, etc. are frequently based upon 'guesstimates' and as such have to be discounted. Even in the limited sphere in which they are expected to be useful their validity is considerably limited. Again most of the Monsoon Asia being a cereal consuming (and that too principally rice) region it is hard to find out what are the supplementary diets, such as meat and fish—which are certainly consumed on a considerable scale but for whose production and consumption it is hard to get data. *For purposes of this study, most of the Asian countries are treated as cereal consuming regions.*

As regards the adequacy of food supply it has to be made clear that the 'nutrition' consciousness which has recently dawned upon the world has made little progress in Asia. People still stick to the old ways of life and their

*dietetic requirements are therefore appraised from the point of the quantitative adequacy of their cereal consumption rather than the nutritional (qualitative) adequacy of the same*

*Imports and Exports* In the case of countries depending upon imports, the very fact of importation of food may be taken as a sign of the failure of domestic production to meet domestic needs. The same however cannot be said regarding the food exports of a food exporting country. That a country is exporting does not mean that its internal needs regarding food have already been adequately met. Exports take place not after internal requirements have been met, they take place more in response to the pull of the higher price ruling in the export market as compared to the one obtaining in the home market.

*Food and Income* Available stocks and existing needs are brought together only if people have enough money income with which they can convert existing needs into effective demand. During a depression, there are huge unsold stocks not because there are no people with hunger unappeased but because though these hungry mouths look up they are not fed since they lack money income.

*Agriculture and the Trade Cycle* It is a phenomenon now well known to writers on trade cycle theory that the boom and the slump affect agriculture with a considerable difference in magnitude. While agriculture does not gain as much as it should during a boom, during a depression each fall in price tends in some cases to bring about an increase in supply rather than a curtailment, because each individual agriculturist tries to maintain his income by making up in output what he loses on price. The total result however is an increase in supply which by itself gives a further downward push to prices.

### (C) PROBLEM OF ECONOMIC INCENTIVE FOR THE AGRICULTURIST

From the above discussion, it is obvious that in order that the marriage of agriculture and nutrition should take place, each Government must go in for some system of guaranteed minimum food for each individual on the one hand and the guarantee of 'an assured market at a remunerative price' to the agriculturist on the other. The problems which these broader issues raise lie outside the scope of this memorandum.

## II

An attempt is made in what follows (subject to the general considerations stated above) to state the relative positions of Population Growth and Food Supply for various Asian countries. On the basis of general similarity *inter se*, countries would be grouped under three groups: (a) The Middle Eastern Asian countries (b) Tibet, India and Ceylon and Burma (c) The South-East and

Far East Asia generally called Monsoon Asia—(a predominantly rice consuming region)

A fourth important division would have been Soviet Asia. Both by reason of its internal economic organisation and also by virtue of the fact that it is externally a closed economy neither exporting nor importing unemployment it does not detract much from the utility of this study if we exclude it from the scope of our consideration since it has no population problem as such)

### III

#### THE MIDDLE EAST ASIAN COUNTRIES

*Arabia* Arabia is essentially a desert country comprising an area of nearly 1,000,000 square miles and inhabited for the most part by nomadic Bedouin tribes eking out a precarious pastoral existence by the breeding of camel, sheep and goats. It is politically a patchwork quilt—consisting of Saudi Arabia, Yemen, Muscat and Oman, Bahrain and territories under Sheikhs who have entered into treaties with the British Government.

Statistical data are not available for most of these little kingdoms which may however be regarded as self-sufficient in regard to cereals and meat. Yet the following information is stated for whatever it is worth. For Saudi Arabia (Area 1,500,000 square miles, Population=3,000,000). The staple products are honey and fruits, dates, wheat, barley, etc. The chief imports are piecegoods, tea, coffee, sugar, rice, motor vehicles. Of all imports rice and sugar are the only articles of consumption having some bearing on food supplies.

No figures are available about Yemen and other Arab territories in Asia.

*Afghanistan* (The area is 250,000 square miles and population according to latest estimates is twelve millions.)

Although the greater part of Afghanistan is more or less rocky and too dry for cultivation, there are numerous fertile plains and valleys and with the aid of irrigation from small rivers and wells, these yield very satisfactory crops of vegetables and food grains. Fruit is produced in abundance. It forms a staple food of a large class of people. Sheep form the principal meat diet and grease and fat supply the place of butter. Both imports and exports consist of comparatively unimportant food articles. (Statistical data regarding Afghanistan are very meagre. The above is based upon information available in standard geographies.)

*Palestine* (Area 10,157 square miles). The population of Palestine is growing from year to year due partly to natural increase and partly to immigration, it is not possible to state the extent of immigration since considerable immigration takes place without legal cognisance.

Official estimates for population growth are given below<sup>9</sup>

Year	Population
1922	752,048
1937	1,401,494
1939	1,501,698
1940	1,544,530
1941	1,585,500

Though the extent of immigration is not known, the rate of natural increase can be deduced from the following vital statistics<sup>9</sup>

Year	Birth rate per mille		Death rate per mille	
	Jews	Mohammadans	Jews	Mohammadans
1921-25	33.9	50.3	13.6	27.1
1926-30	34.3	53.5	11.6	28.3
1931-35	30.2	50.3	9.2	25.3
1936	29.7	53.1	8.8	20.0
1937	26.5	49.8	7.7	24.9
1938	26.3	47.3	8.1	18.7
1939	23.0	46.4	7.6	17.4
1940	23.7	47.4	8.2	24.7
1941	20.7	49.2	7.9	21.4
1942	22.8	45.1	8.6	19.8
1943	29.1	52.3	7.7	19.0

For the Moslems the birth-rate and the death-rate indicate a tendency towards increase, on the other hand for the Jews a declining birth rate and a fairly steady death rate indicate a declining rate of natural increase. On the whole however an expanding population is indicated.

Turning to food-supply we find that major cereals do not indicate any considerable increase in acreage and outturn. Under the impact of inflationary forces some increase is noticeable in the year 1940-41 but the subsequent years immediately record substantially steep declines. The following table setting out the area and outturn for major cereals of Palestine would bear out the above comments<sup>10</sup>.

Crop	Area Hectares (000 a)				Production in Quintals (000 a)					
	1930-31	41-42	42-43	43-44	1930-31	39-40	40-41	41-42	42-43	43-44
Wheat	191	223	201	177	631	892	1351	905	1011	639
Barley	183	203	149	136	460	869	1024	644	114	599

Palestine therefore is a deficit country and would have to turn more to industrialisation. Co-operative agriculture has already been tried in Palestine with considerable success. If politics permit the same development may come about in industries.



*Syria and Lebanon* The detailed figures of growth of population are not available, yet what is true of Palestine is roughly true of all Arabian countries. They are all sub-subsistence economies, trying to eke out a bare existence. The rates of growth of population and food supply are disparate and the latter definitely falls short of the former. During war time some increase in output was brought about by heavy manuring and under the inflationary price increases, increased monetary incentive helped to bring about some increase in supply. The slackening of war-demand is sure to bring about a decline in yields. But the present gains are in need of conservation.

The acreage and outturn of crops in Syria and Lebanon are set out below <sup>11</sup>

Crop	Area Hectares (000 s)				Production in Quintals (000 s)					
	1930-31	41-42	42-43	43-44	1930-31	39-40	40-41	41-42	42-43	43-44
Wheat	204	647	649	620	3924	600	6690	4500	5074	5833
Barley	322	329	..	..	3160	300	3820	..	..	..

The experience during the war has been a pointer to the agricultural potentialities of these regions which have been allowed to run to waste. About these agricultural potentialities it has been observed <sup>12</sup> 'There is every reason to expect a notable rise in production and with it an upward movement in farm families' living standards. There is no need to elaborate the steps that would have to be taken. They include land settlement, afforestation, irrigation.'

Most of these countries have little that they can profitably export. They will have to try and secure a diversification of their agriculture and to assure a more stable market for their agricultural output at home. They will have to conserve and utilise their foreign exchange for purposes of the re-industrialisation.

*Iraq* has an area of 116,600 square miles and a population of 3,560,456 in 1935. In 1939 the population was put at 3,700,000. Birth rates and death rates are not available and therefore it is difficult to forecast the growth of population.

The area and outturn of crops were as follows <sup>13</sup>

Crop	Area in Hectares (000 s)				Production in Quintals (000 s)					
	1930-31	41-42	42-43	43-44	1930-31	39-40	40-41	41-42	42-43	43-44
Wheat	240	800	820	9	3263	100	4900	3300	4000	3900
Barley	67	920	8	982	3187	9200	10000	9200	6000	5990
Rice	125	194	194	194	158	3000	..	2800	3200	3200

In addition the country has vast untapped resources both agricultural and industrial. It has also got additional food resources. It produces 80% of the world's supply of dates. It has got untapped oil resources. Oil, as a source of power may at some future date be replaced by other alternatives, but

till then on the strength of this oil, Iraq may acquire the necessary foreign exchange for meeting the deficit in her home-produced supplies

Iraq's irrigation projects have been held up because of the war (especially the Geb Bikhme Dam on the Greater Zab) According to Seton Lloyd<sup>11</sup>, when these are completed, Iraq may become again the granary of the Middle East. She will be also able to maintain a larger population

'With improved agricultural methods, extended irrigation, more capital and better communications Iraq would be able to support a population many times its present size' One of Iraq's problems has been that of price instability of agricultural produce. Only when such price instability is countered by more positive Government action aiming at a stabilisation of agricultural prices, will Iraq be able not only to feed herself, but also to feed her neighbours

*Iran* (Area is 628 000 square miles) No official census has hitherto been taken. The population was estimated at 15,000,000 in 1939. Paucity—or rather the entire absence of vital statistics makes impossible the forecasting of any trends regarding either

The area and outturn of chief cereals are set out below<sup>12</sup>

Staple	Area in Hectares (000 a)				Production in Quintals (000 q)					
	1930-31	41-42	42-43	43-44	1930-31	39-40	40-41	41-42	42-43	43-44
Wheat	1280	.			15014	19123		17 000		
Barley	303				6625	7067		11 000		

In spite of the paucity of data, we can safely assert that our conclusions regarding Iraq and Palestine apply with equal force to Iran. Iran has ample oil resources, on the strength of which she can have the necessary foreign exchange for importing the requisite foodstuffs

#### *Wartime Food Situation in Middle Eastern Countries*

As a result of the War, there has been a tendency to increase the production of vegetables. This has been partly at the expense of raw materials. However owing to climatic conditions and other factors such as lack of fertilisers mobilisation of farm labour yields fell and crops especially of wheat were below average especially in 1941 and 1942. Indeed in 1942, wheat crop touched the lowest record in recent times. Food supplies in recent times were deficient in the second and third years of war. Conditions were most difficult in Iran which had to effect considerable purchases abroad.

The difficulties of the situation were accentuated in several countries by inflation and a consequential hoarding of supplies by farmers. The short supplies of bread cereals were however in most countries made to last by high

extraction rates and by admixture of food-grains and the introduction of an effective price-control and rationing. But not only are statistics of population little developed, but large parts of population are illiterate, nomadic, or living under conditions of a primitive agricultural economy.<sup>16</sup>

#### IV

*India*<sup>17</sup> 'India is a large country and has a large population of some 400 millions, but *a priori* this figure is of little significance. A country is overpopulated or underpopulated in relation to its area and resources. Secondly, while we hold that there is a serious population situation we emphasise throughout that the primary problem is of under employment of resources both agricultural and industrial.'

Very little is known about the historical period except attempts at estimates such as Morelands' in *India since the Death of Akbar*.

Since 1872, there has been a census in every decade. The census figures are reasonably accurate—more so for example than statistics of births and deaths—and the existence of such figures covering nearly three quarters of a century is an enormous asset in the study of population problems in India. If as in China, the total population could not be estimated within a hundred million no quantitative argument would be possible. The figures are set out below.<sup>18</sup>

Census Year	Population (Millions)	Increase % since previous census
1872	203	
1881	250	23.2
1891	279	11.6
1901	284	1.8
1911	308	6.7
1921	306	1.0
1931	338	10.6
1941	389	15.1

Part of the large increase between 1872 and 1881 was due to the inclusion of new territory in the census area. The slow growth between 1891 and 1901 was due to famines and that from 1911-1921 at least to the influenza epidemic (1918-1919) and famine (1920-21) which were responsible for 13 million deaths. From 1921-1941 we have two decades of steady growth.

The size of population has increased but the rate of growth has not been considerable. In England and Wales, during 1872-1931 population increased

by 77%. For other countries rates of growth are not accurately known. In France it was considerably lower than in India while in United States, it was considerably higher than in England. In India the rate of increase was only 30%. 'We may reasonably conclude', remark the Commission<sup>19</sup> that the relatively slow and fluctuating rate of growth during the period for which census figures are available, was due to high mortality from disease and famine and that in the absence of these checks the population would be considerably greater than it is.'

#### BIRTH AND DEATH RATES

The birth and death rates for India during the decades from 1901 and subsequent years are given below<sup>20</sup>

Period	Birth rate per mille	Death rate per mille
1901 10	38	34
1911 20	37	34
1921 30	35	26
1931 40	34	33
1941	32	22
1942	29	27
1943	26	23

Birth rate was fairly steady upto 1940, the fall during the past few years cannot be properly appraised at present. Death rate on the other hand is steadily declining. The cause of the steady decline is the fall in infantile mortality rates which fell from 195 in 1920 to 160 in 1940 and the decrease in mortality from cholera and plague. Since registration is improving the real decrease in death rate may be greater than mortality figures suggest. There is considerable scope for further development and improvement in this direction by extension of health services.

Barring 1942 and 1943 the excess of births over deaths has increased. If the present tendencies shown by the recorded birth and death-rates persist, an increase in the rate of growth of population is to be anticipated. Because of the omissions in registration however the number of recorded births in India may have been underestimated by 20-25%. On the other hand omissions in the registration of deaths are far less frequent and probably percentage error in total mortality statistics is considerably smaller. The growth capacity of population may be even greater than the recorded excess of births over deaths suggested.

The average density of India (the crude man land ratios) does not compare unfavourably with other countries, being 246 per square mile for all India and 341

per square mile for British India only as against 710 for Belgium 703 for England 482 for Japan This does not however give any idea of the high density of some of the areas as against the others within the country itself

*Land and Food Production* The total area of British India is 1.58 million square miles or about 1000 million acres According to official statistics for 1940-41, land in British India can be classified as follows

Cultivated Area—	(In million acres)
Net Area sown	214
Net Area under food crops	170
Current fallows	45
Uncultivated Area—	
Not available for cultivation	87
Forest	68
Other uncultivated land	98

The per capita net acreage under food crops (excluding current fallows) is on the basis of census figures for 1941 0.57 The classification is vague and shifting<sup>41</sup> It may however be suggested that land which is uncultivated from the point of view of ignorant and resourceless peasants may be cultivated if Government extends facilities for irrigation and institutes land reclamation schemes

*Diet and Land Area* We have already referred to the objective of improving the diet of the people It is clear that if an agricultural population has to live on the food which it itself produces the amount of land available per capita must at least be sufficient to provide enough calories to satisfy hunger, but apart from this obvious fact there is another relation between diet and land which is of the utmost importance More land is needed to produce a well balanced diet containing an abundance of protective foods than an ill balanced diet mainly of cereals To produce 1000 calories in the form of milk required from three to four times as much land as is required to produce 1000 calories in form of cereals To put it in another way land devoted to fodder crops or grazing cannot return as many calories per acre in the form of milk as the same land sown with cereals or tubers Similarly fruit and vegetables in general eggs and meat give a lower caloric return per unit area than the energy yielding crops It follows therefore that if the amount of land available per capita is small, it must if the population it supports is to obtain enough to eat be devoted to the production of foods which give a high caloric return Densely populated countries suffer in general from a lack of protective foods since, because of pressure of population these foods cannot be produced in sufficient quantities

All diets, according to nutrition experts, can be divided into

(a) An 'emergency restricted diet' This diet consists largely of cereals and was designed to help destitutes (e.g. the unemployed) over a comparatively short period of privation

(b) An adequate diet at minimum cost This was the most expensive diet including less cereals and rather more milk, meat, fruit and green vegetables

(c) An adequate diet at moderate cost This was roughly similar to (b) but was richer in milk and other nutritious foods

(d) A 'liberal diet' In this diet the proportion of cereals is reduced to 100 lbs per year, a quart of milk per day was included and meat, fruit, and green vegetables were added in maximum quantities

Diets (b), (c) and (d) are similar in energy value while that of (a) is slightly less

The amount of land per capita required (in USA) to produce these various diets was calculated by agricultural experts. The acreage required was as follows <sup>21</sup>

Diet	Acres per capita
(a)	1.2
(b)	1.8
(c)	2.3
(d)	3.1

The net area per capita under food crops in India (including current fallows) is 0.72. The difference between this figure and the acreage which according to existing estimates is required to yield the various kinds of diet is indeed striking. But agricultural conditions in India are radically different and a direct comparison is hardly justified.

### *The Food Supply*

It is difficult to estimate the general trend of yields in the country as a whole. In the case of certain crops notably sugar cane there has been a remarkable increase in yields but the position regarding cereals is less clear. Probably progress has been achieved in certain parts of the country, large cultivators in general with resources at their disposal have improved the productivity of their lands. But it is very questionable whether the small cultivators in many areas have been able to achieve anything, in this direction and statistics from various provinces indeed suggest that average cereal yields have been decreasing. We regret the lack of satisfactory statistics on this point since it has bearing on future possibilities. The question of potential increase in yields has been discussed in *Technological Possibilities of Agricultural Development*

in India' According to this, yields of rice could be increased by 30% 50% by improved varieties, 20 per cent by increasing manure, 5 per cent by protection from pests and diseases There should even be no difficulty in increasing the present outturn by 50% viz, 10% by improved variety and 40% by manuring Potential increases in the yield of wheat and millet are of the order of 30% for cow and buffalo milk 75% and 60% respectively The present average yield of sugarcane is about 15 tons per acre These are technological possibilities illustrating what may be achieved by the application of thoroughly efficient scientific methods These are not immediate possibilities "

### Is India overpopulated ?

In the question thus posed various answers have been given As Sir John Megaw wrote in 1933 —

"There is every reason to believe that the maximum increase which can be hoped for in the production of necessities of life will not keep pace with the growth of population so that there is a steady deterioration in the state of nutrition of the people' and Carr-Saunders, in his *World Population* singles out India as the only country in the world in which the situation which Malthus assumed to be more or less universal in time and place still exists, and the Famine Inquiry Commission unequivocally states In relation to the existing stage of development of her industrial and agricultural resources, India is in our opinion, overpopulated Pressure of population on food supplies, which of course varies in different parts of the country is shown and felt in various ways— (a) By the fact that in respect of food India has become an importing instead of an exporting country (b) Decrease in the size of holdings (c) Increase in the number of landless labourers (d) Considerable emigration to Asian and non-Asian countries (e) Net reproduction rates<sup>21</sup> are not available for the country as a whole but age composition of population is such that a growth rather than a decline of population is indicated "

**Burma** (Area 260 000 square miles ) The total population was 14 667,146 according to the 1931 census Now the population is estimated at 16 800 000 <sup>22</sup> The racial composition is peculiar and details of vital statistics are lacking Since net reproduction rates are not available crude birth and death rates are set out below

Year	Births per mille	Deaths per mille <sup>23</sup>
1911 13	32.1	25.4
1921 25	28.4	21.0
1926 30	26.8	20.9
1931 35	28.8	18.4
1936	32.2	20.5
1937	32.0	23.0
1938	31.8	23.7
1939	32.3	22.9

On the whole the gap between birth-rates and death-rates has increased, thus indicating the possibility of growth. But Burma has neither a problem of population nor of population pressure on resources. The density per square mile is very low being 74 per square mile only. In food resources Burma was the exporter of  $2\frac{1}{5}$ ths of world's rice and as such she is for a long time sure to be in a position to feed herself.

**Food Resources** Burma's staple crop is rice which is produced in sufficiently economic holdings of 15 acres per family (of five). She used to have in pre-war days, an exportable surplus of  $3\text{-}3\frac{1}{2}$  millions annually of rice, and her production of rice was steadily increasing. The area and outturn of rice are set out below.<sup>27</sup>

AREA AND OUTTURN OF RICE IN BURMA

Area (000 s Hectares)					Production (Quintals 000's)				
1930-31	1941	1942	1943		1930-31	1939	1940	1941	1942
to 34-35	1942	1943	1944		to 34-35	1940	1941	1942	1943
4944	5141				72933	71069	81980	71400	

Thus the trends of growth of population, the comparatively undeveloped yet admittedly vast natural resources, the sufficiently 'economic' holding the exportable surplus of rice all underline the fact that in relation to the whole set of facts, there are not too many people in Burma. It has consequently a great contribution to make to the solution of the food problem of Asia's Teeming Millions.

**Ceylon** (Area 16,212,400 acres) The population was in 1931, 5,306,863 and in 1942, 6,083,000. The density per square mile is 208. Of the total only 13.5% of population is urban. Between 1921-1931, the rate of increase of population was 19%. But how much of the increase of population was due to emigration (especially Indian) it is difficult to state. The rate of natural growth can be gauged from the following figures.<sup>28</sup>

Period	Birth per mille	Deaths per mille
1911-13	36.5	31.8
1921-25	39.2	27.8
1926-30	40.4	25.1
1931-35	36.9	24.7
1936	34.1	21.8
1937	37.8	21.7
1938	35.8	21.0
1939	36.0	21.8
1940	35.8	20.6
1941	36.5	18.8
1942	40.5	21.3



## GROWTH OF POPULATION

Year	Population
1911 Census	8,266,000
1919 "	9 207 000
1925 "	10,485,000
1929 "	11,506,000
1934 Estimate	13,198 000
1935 "	13 588,000
1936 "	13 989 000
1937 Census	14,464,000
1940 <sup>12</sup>	15,000,000

But Siam, like all South-East Asian countries has been a happy hunting ground, nay settling ground, for the overflowing population of China. It is difficult to ascertain the exact extent of the natural growth because of immigration (This has been commented upon by a German writer, Wilhelm Credner in *Siam das Land der Tai*. The following table would give some idea of the extent of Chinese migration <sup>11</sup>

## CHINESE MIGRANTS GOING THROUGH THE PORT OF BANGKOK

Period	(1) Arrivals	(2) Departures	Excess of (2) over (3)
Average 1925-26			
—29-30	9,70 00	59,492	37 518
1930/31-1934/35	51,490	41,480	10,010
1933/34	15,648	30,176	15,528
1934/35	24,282	29,305	5 023
1935/36	30 964	—	—
1936-37	37,152	—	—
1937-38	44,143	—	—

Vital statistics are lacking and as such it is difficult to forecast the trend. *Land Utilisation in Siam*. Completely forest covered before the coming of man the country has still 70% of its area under forest. The cultivated or utilised area of Siam has been estimated at 5,000,000 hectares. Rice is the chief crop occupying 94.06% of total area, rubber comes second with 8.25%. In commercialised rice regions lands are slowly concentrating in the hands of Chinese and Siamese money lenders. In spite of these undesirable features Sir Josiah Crosby has opined that "The standard of living among them may not be high but their needs (outside the loans at any rate) are few, the country is fertile and acute distress among them is unknown."

The steadiness of the area and output of rice will be obvious from the following figures. The area under rice was 2,890,000 hectares in 1941-42.

*British Malaya. Net Arrivals and Departures (+ & -) of Labourers  
(In thousands)*

Race	1929	1930	1931	1932	1933	1934	1936	1937	1938
Chinese	79.8	191	-133.8	-133.8	-128.8	-58.1	69.2	176.8	50.5
S. Indians	37.8	-78.4	-81.2	-66.3	-12.3	61.8	3.4	78.2	-31.2

Because of this flux of populations it is very difficult to ascertain the extent of the increase. Immigration has another effect in slowing the growth of population as a whole. It is the effect on the sex rates. The sex-rates for Chinese of females to males was 247 1000 in 1911, 384 1000, in 1921, 384 1000, in 1931, 436 1000 in 1931. Among the Indians the same rate was 406 1000 in 1921 and 482 1000 in 1932. As Vihland points out 'The number of women in Malaya was so small that despite their fecundity and general death rate by no means discreditable to a tropical country, it was utterly impossible for the number of births to exceed the number of deaths.' "

**Food Supply** In 1938 in the whole of Malay Peninsula, 64% of the total crop area was under rubber, only 14.3% under rice and 12.1% under coconuts. Rice, coconuts etc. were grown long before the advent of Europeans. But since 1877 rubber has been the king among the agricultural crops. In fact Malaya was guilty of having put all its eggs into two baskets—only rubber and rice. The depression has shown the danger of the outstanding characteristic of Malaya's economy—the extensive cultivation of export crops and the total inadequacy of food production. Malaya imports large quantities of rice, coffee, tea, groundnuts, practically all items that could be produced at home. Whenever there is a serious fall in world prices of rubber or tin Malaya suffered considerably. Periods of world rice-shortage such as occurred after Great War I and under Japanese occupation prove very costly for a country which lives on imports. With the growth of synthetic rubber industry, Malaya must turn more and more away from rubber. After the slump of 1930's the Government attempted a diversification of agriculture by encouraging the cultivation of food. But the only effective measure—the admission of Chinese to agriculture land was not then politically feasible. Grow More Food Campaigns had little attraction for small holders who normally earned far more money from rubber. The area under rice expanded from an average of 662,000 acres in 1925-29 to 740,000 in 1937 but dropped again in 1938.

A country like Malaya that still has abundance of uncultivated land and has an economic frontier to be pushed back, does not need studies on its agricultural economics, on the condition of agricultural population. It is not the peasants who are the objects of rural surveys but rather the population economy—especially since overproduction and fall in prices have revealed the precarious position of Malaya, a land, whose economic structure rests on crumbling foundations of a plantation system. This precarious position would be intensified in

the future, as King Rubber has been challenged by synthetic substitutes like Buna S and Buna N Malaya must, therefore set her house in order and by adopting a proper price policy for rice bring about a change over from rubber to rice. It is only thus that she can hope to maintain her prosperity and not if she continues to supply the world market with her principal products—rubber and tin, she can reasonably hope to continue to maintain a happy and prosperous community of mixed peoples living under conditions markedly in advance of those of the neighbouring crowded countries of the Far East.<sup>27a</sup>

(c) *Indo-China* (Total area 740 thousand sq kilometres) Population in July 1936 was 23 millions. This gives a density of 31 per square kilometre. The density figure is rather misleading since most of the population is concentrated in alluvial plains and hilly tracts are left uncultivated. French students of demography have shown that from a social point of view the actual density of population is of secondary importance. A consideration of nutritional density<sup>28</sup> or the ratio between inhabitants and area of land already under cultivation is much more significant. In the case of Indo China only rice fields have to be considered—paddy being the staple food crop. Nutritional density thus considered would give us 637 per sq kilometre of rice field. Population pressure is most significant in certain sections only. A redistribution of the population within the country would point a way out.

Migration of population especially of Chinese has played a considerable part in bringing about increase of population. The net arrivals (+) and departures (−) of Chinese and Indians are set out below.<sup>29</sup>

Period	Chinese	Indians
1925-29 Average	+ 24 919	+ 528
1930-34 Average	− 1 198	− 475
1935	+ 15,745	− 31
1936	+ 15 845	+ 43

Of Indians the migration is considerably on a smaller scale.

Birth rates and death rates are not available. Only in the Tonkin Delta is there an acute population problem. The Mekong Delta of the South was brought under general cultivation only late in the century, as was the delta of Irrawaddy in Burma and population has not begun to reach its limit. Tonkin however has been rather thickly populated for centuries and a recent scholarly study by Pierre Gorou<sup>30</sup> lists areas in which the rural population rises to over 1,600 per square kilometre or 3 800 per square mile. Hence, in spite of an intensive agriculture and two crops per annum, Tonkin is hardly able to feed herself in normal years.

*Area under cultivation* Of the total area not quite 15% is utilised in one way or another by a population amounting to 23 millions. Of this only 8% is cultivated. The agricultural statistics of Indo China are still incomplete and represent only rough estimates. In 1937 total crop area reported was 5,780,000 hectares but it excluded area under beans, sweet potatoes and mulberry trees. Also it does not include the area under shifting cultivation which is the predominant form of land use in Indo China. Indo China's most important crop is rice, 5,000,000 hectares being under rice. The whole economic life of the country depends upon rice to such an extent that we can speak of Indo China as having a rice monoculture. 'The classical image of Indo China as a pole balanced by two baskets of rice' is very apt. The two baskets represent the deltas of the Mekong river and the Red river. The first supplies most of the rice for export while the latter has such a large population that it barely meets its needs.

From the size of the rice farms the pressure of population can be easily understood.<sup>40</sup>

Region	Total area in thousand hectares	Small holdings less than 5 hectares	Medium holdings less than 50 hectares	Large holdings more than 50 hectares	Communal holdings	TOTAL
Tonkin	1200	40%	20%	20%	20%	100%
Annam	800	50%	15%	10%	25%	100%
Cochin China	2300	15%	37%	45%	3%	100%

We find on the whole that small and medium sized holdings predominate. The average under rice was in 1930-31—1934-35 54,23,000 hectares, in 1941-42 it was 60,00,000 hectares. The yields were as follows:<sup>41</sup>

Year	Output (000 s Quintals)
1930/31 1934-35	57,460
1939-40	71,334
1940-41	80,000

It is obvious that there is greater room for improvement in agricultural organisation and technique, provision of agricultural finance etc. with the aid of which it would certainly be possible to bring about an increase in the output of rice. There is also considerable scope for bringing vast unused land under cultivation. If these improvements are introduced the present population pressure would appear to be a temporary phase and Indo China would be in a position to support a much larger population.

*Indonesia*—The most important of this area are the islands of Java and Madura which are the only ones for which statistical information is available in detail \*\*

Year	Population	Average Annual Increase in Inter-Censal Period %
1900	28,396,121	
1905	29,978,558	1 10
1920	34,428 711	95
1930	40,891,093	1 79

In 1930 per square kilometre, the density was 235 in Western Java, 389 in Middle, 486 in Jogjakarta, 420 in Surakarta and 309 in East Java

The population is mixed European population has increased thus \*\*

Period	Population	Percentage annual average Increase
1905	94 518	
1920	168,114	3 9%
1930	240,417	3 64%

The Chinese population increase is set out below

Period	Population	Percentage Annual Average Increase
1905	563,449	
1920	809,039	2 44%
1930	1,223,344	4 31%

There is considerable immigration of Chinese in Indonesia This will be evidenced by the following figures

Period	No of Immigrants
1925-29 An Av	5,119
1930 34 An Av	12,660
1935	8,054
1936	8,046
1937	13,333
1938	11,767

The great mass of increasing population remained dependent upon agriculture and native craft for subsistence. In an agrarian economy of the type found in Java, any increase of inhabitants leads to the extension of soil under cultivation. Now, however, the density has reached such a pitch that Java is faced by the problem of overpopulation, which it cannot solve by clearing the forest area because remaining forests must be protected in order to preserve the water supply of the island. In spite of the exhaustion of agricultural possibilities, population continues to increase. A solution has to be sought along lines of colonisation of comparatively sparse parts of Indonesia, and greater industrialisation.

*Land use* In the case of Java, a distinction has to be made between native use and estate use. Complete figures are available, only for Java and Madura, 59% of the area is cultivated by natives, only 7% by estate management. Nothing is known about the outer provinces. Most of the estate crops are commercial crops like rubber and sugar, both of which are likely to be threatened by foreign competition. Native agriculture has made considerable progress. Because of the pressure of population, there is a considerable amount of double-cropping, in Sawahs (irrigated lands). The 'telgans' can also be double-cropped if water resources permit. Rice acreage and output is set out below.<sup>44</sup>

Period	Area (in 000's hectares)	Output (in 000's quintals)
1930 31/1934 35	3 699	55,109
1941 42	4,081	68 041

There is not any substantial increase in production relative to population and as such relief will have to be sought along the lines of colonisation of open spaces and switch over from rubber and sugarcane to rice production.

*China* Data on China are insufficient for purposes of a full analytical treatment. Considerable controversy about the size of the population still persists. The accompanying table will give the different estimates.<sup>45</sup>

Date of Estimate	Writer	Population (Millions)
1901	Sapan	320
1904	Rockhill	275
1912	Rockhill	330
1925	Roseby	400
1928	Willcox	295
1930	Willcox	342
1934	Latourette	400
1935	Fitzgerald	350
1936	Carr Saunders	450
1937	Willcox	350
1937	Noresstein (I estimate)	400
1937	Noresstein (II estimate)	600

About the last two figures, F A Notestein and Chi ming Mao came to the conclusion 'It is the present opinion of the writers that the latter figure is too high and the former too low' <sup>45</sup>

From the same source we learn that the age composition of population shows a preponderance of young persons. Net reproduction rates may reasonably be expected to be higher.

*Growth of Population* There is no registration of births and deaths so that estimates regarding vital statistics and population growth will have to be very rough guesses only. F A Notestein and Chin min Chao report a crude birth-rate of 38.3 per mille for the whole area under investigation, the rate being 37.4 per mille for North China and 39.0 for South China. But the author's themselves state that this is a conservative estimate. The high birth rate is probably due not so much to high fertility as to the high percentage of married women. Among women of child bearing age 85% are married as against 67% in Japan. Apparently the fertility of Chinese women is lower than that of Japanese women, but the universality of marriage in China more than counteracts the effect of lower fertility of married women yielding a higher crude birth rate for China than for Japan' <sup>46</sup>. The following figures will give the data regarding vital statistics <sup>47</sup>

RATES OF BIRTH AND DEATH (CRUDE) PER MILLE

Item	China	North China	South China
Birth	38.3	37.4	39.0
Death	27.1	24.1	30.0
Increase	11.2	13.3	9.0

*Rural and Urban Populations* According to official figures published in 1932, 75% of all households are rural. The sample data of land utilisation studies 'give a distribution of 75% in farm villages and hamlets 11% in market towns where part of the population is engaged in agriculture and 10% in the cities' <sup>48</sup>

*Migration* In the past two great streams of migrants have gone out of China proper: one from overpopulated Northern Provinces to Manchuria and the other from Southern Provinces to South East Asia.

Only estimates are available as to the number of Chinese living in South East Asia, the English speaking Pacific countries etc. They vary between 10½ to 11½ millions depending upon the number of Chinese in Manchuria. Since the closing of English speaking countries to immigration, it has

been mostly concentrated in South-East Asia. In recent years more Chinese have left Siam than have entered it. Between 1931-33, there was enormous re-immigration of Chinese coolies from Malaya and since 1934 there is a net immigration again in Malaya. Immigration in Indonesia is now restricted.<sup>30</sup>

### Land Utilisation in China

Most of the data on land utilisation in China has been obtained by field studies of 168 localities scattered over 22 provinces. The agricultural regions of China are mainly the Wheat Region and the Rice Region, with intermediate region, of eight types.

In China crops are grown mainly for food, for direct human consumption and only a small proportion is used for cattle feed. Area under food crops is set out below.<sup>31</sup>

AREA UNDER CROPS (FOOD)  
(in Thousand hectares)

Crop	Average for 1931-34	1935	1936	1937
Wheat	19,873	20,807	20,369	17,246
Rice	17,862	18,600	18,149	18,149
Barley	6,597	6,652	5,540	5,957
Soyabeans	2,146	5,158	4,922	4,922

In order to get the total crop area we have to multiply the index of multiple cropping in China which according to Prof. Buck is 149 so that total crop area comes up to 131 million hectares.<sup>32</sup>

There is very little land lying fallow and this is indicated by the fact that the percentage of fallow, in Wheat and Rice Regions is respectively 2.4% and 0.3% only.

Double cropping is a significant feature of the Chinese farm economy. This extent of double-cropping depends primarily on the climatic conditions, on the length of the growing season etc. In some cases, even three crops are taken within a year, on the same fields. This however is limited to the Rice Region. In Wheat Region, 27% of the area is double-cropped, in the Rice Region 66%, the percentage for China as a whole being 49%.

**Cultivable area.** In a densely populated country, a most vital question is the enlargement of the area under cultivation. But of the land classed as uncultivated, the peasants make use of more than half of the uncultivated area for grazing and pasture. It is expected therefore that with all the necessary reforms only 91 million hectares extra can be made available.



Yashnov, a Russian Writer on Chinese Economy<sup>53</sup> states that 'If with the acute shortage of land and its high prices, the Chinese peasant was not able to increase the sown area it is evidently the result of insurmountable obstacles'

*The Size of the Holding* The size of the holding which has so vital a significance for the productive organisation of agriculture is extremely low in China today. There is also considerable fragmentation of the farm acreage. The average size of farms is 0.94 acres, divided into 5 to 6 pieces. This parcellisation has a great influence in reducing output and causing waste.

China's economic drive will have to be directed to greater industrialisation, rationalization of agriculture and family limitation.

## JAPAN

*Population Growth* Japan's rapid population growth within the last seventy years merely repeats the early nineteenth century experience of Western European peoples. It is a phenomenon associated with early stages of industrialisation. While the trend of Japanese birth-rate was declining, the annual net increase of population was maintained because of the declining death rates. As a result of sino-Japanese War, death-rate increased in 1938. Compared with the previous year decline of births amounted to 3.2% in the first quarter of 1938, 9.7% in the second, 15.9% in the third, and 19.9% in the fourth. On the other hand other statistics in Table II below do not include military casualties in China. With this omission a lower annual total of deaths should have resulted. The following tables would bring out the actual increases in population and the rate of growth.<sup>54</sup>

### I

#### GROWTH OF POPULATION

(In thousands)

Period	Population	Deaths	Births	Excess of Births
1909-13 Av	53,223	1,061	1,746	685
1925-29 Av	61,542	1,261	2,093	876
1930-34 Av	66,300	1,203	2,107	904
1935	69,254	1,162	2,191	1,029
1936	70,258	1,230	2,102	872
1937	71,253	1,208	2,181	973
1938	72,223	1,260	1,928	668
1939	72,876	—	—	—

## II

## GROWTH OF POPULATION (RELATIVE FIGURES)

Period	Index No of Growth	Death-rate per mille	Birth rate per mille	Rate of increase per mille
1909-13 Av	100	21.1	34.7	13.6
1925-29	122.5	19.3	33.5	14.2
1930-34	132.0	17.9	31.6	13.7
1935	137.9	16.8	31.6	14.8
1936	139.9	17.5	29.9	12.4
1939	145.1	—	—	—

For the future a further rapid decline is to be expected. The tendency towards a higher female marriage age and the inclination of economically independent women to escape the burden of parenthood, already apparently before the war are sure to be strengthened. According to the estimates made before the war, the population was expected to be 80 million by 1950. With the interruption of steady population growth (since 1931) no revision of this estimate has taken place. For the probable growth after 1950, we find different estimates, Dr Uyeda who has taken into consideration changes in the age and sex composition of the population has come to the conclusion that population can never reach the 100 million mark. In contrast to Dr Uyeda, the Institute for Research of Population Problems in Japan, neglecting these changes has estimated a population of 100 millions towards the seventh decade. According to Mr Inouye, the Director of the Institute, the result of Dr Uyeda's estimates is an underestimate while his own is an overestimate. The comparatively correct estimate will be somewhere between these two estimates—i.e. after thirty years Japanese population may appear to be in the neighbourhood of 90 millions. Uyeda's assumption of a stationary population is based upon the fact that fecundity of Japanese women is diminishing although the diminishing rate of mortality will to some extent counteract this.

Most of these discussions appear meaningless in the light of recent changes. The future of Japanese population will depend upon the standards of living and mating as they are established after the forces of occupation are withdrawn.<sup>55</sup>

*Population Problem* It is generally accepted that under pre-1937 conditions, agriculture could not take care of increasing number of Japanese people of productive age because 'the capacity of rural Japan to maintain numbers is unquestionably very limited. Actually Japan's population had begun to concentrate in cities and urban occupations. Japanese industry absorbed during this quinquennium not only the growing number of young people who were

forced to leave their rural homes but an additional total of labourers probably in excess of the annual labour surplus accruing in Japanese villages. Japan cannot maintain her industries without depleting her rural labour force.<sup>56</sup>

*Migration* Many Japanese hold that international redistribution of population and emigration offer two methods of alleviating the population problem, but as suggested by Dr Ishii,<sup>57</sup> the following three factors explain why they have been so limited in their application. (1) The prolonged policy of isolation under the Tokugawa regime suppressed earlier tradition and ambitious overseas activity and thereby devitalised the Japanese. (2) When Japan entered the field she found that territories suited for occupation were already occupied by the Europeans. (3) Most of the colonies and dependencies of Japan were already densely populated long before Japanese occupation. The Japanese population in colonial areas was 1,081,000 in 1927 and 1,975,000 in 1936.

In spite of considerable financial help offered by Japanese Government, there has not been any substantial increase in emigration.

#### *Land use and Food Supply*

Japan proper is very unfavourably placed in regard to land utilisation. Only about 20% of the area is considered as arable and only 15.8% is under cultivation. It is estimated that Japan proper has 1,700,000 hectares of reclaimable waste land. All this land is definitely marginal and requires large investment for clearing, terracing, irrigating and draining. Area under meadows is rather large considering the fact that Japan has not got much livestock.

The area under rice increased from 2,954,000 hectares in 1909-13 to 3,194,000 hectares in 1938. During the same period area under wheat increased from 477 thousand hectares to 719 thousand hectares, while area under barley has shown a decline. This will be illustrated thus:<sup>58</sup>

RENDS IN AREAS UNDER PRINCIPAL CROPS  
1878-82 Average = 100

Year	Rice	Barley	Wheat
1913-17	120	98	141
1918-22	122	88	147
1923-27	124	75	131
1928-32	127	65	137
1933-37	125	56	184

In Japan because of the pressure of population a large part of the cultivated area is double-cropped but the extent of double-cropping is not accurately known.

Another result of the pressure of population is that the size of farms in Japan is declining. Japanese farmers are forced to make their living on farms which appear dwarf-like to Westerners. Of the 5,575,000 households occupied in agriculture in 1937 33.8% till less than 0.5 'chn' apiece and 34.2% between 0.5 and 0.99 chn only. The highest intensification of agricultural methods (garden, agriculture), double-cropping and a practically complete absence of fallow explain at least to a certain extent why such small units can exist.

The solution of Japan's population problem will have to be sought along lines of family limitation.

### *Philippines*

*Growth of Population* The first census of Philippines, since 1918 was taken on January 1st, 1939. The preliminary report of the Census Commission gives 16,000,303 as the population for that date as against 10,314 thousand for 1918. The table below gives population estimates at five-year intervals since 1905 —<sup>1</sup>

Year	Population	Rate of annual increase per 1000 Population over a 5 year period
1905	8,030,208	
1910	8,876,170	20.0
1915	9,722,135	18.2
1920	10,566,889	16.6
1925	11,408,819	15.3
1930	12,250,752	14.2
1935	13,096,400	13.4

The Philippine problem is one of maldistribution rather than of overpopulation. The mass of people are concentrated in a few very densely populated areas while large sections of the islands have only a scant population. Among the underpopulated area is the island of Mindanao, one of the most thinly populated islands of the whole group. Other sparsely populated areas are Palawan, Mindoro, Basilan and Samar. The great problem is therefore how to transfer the population from the overpopulated regions of Luzon and Visayas to the undeveloped but potentially rich regions of Mindanao. In the past twenty years attempts have been made to ease the problem by settling land-hungry peasants on home steads in comparatively unoccupied areas.<sup>20</sup>

*Immigration* Immigration into Philippines involves in the main, two groups, Chinese and Japanese. In addition, attempts were being made in 1938 to investigate the prospects of settlement of Jewish immigrants. Ever since Philippines came under American rule, attempts were made to restrict Asian

immigration but the Filipino National Assembly passed a law in May 1940 and placed all annual immigration on a flat quota basis, the quota being 500 for any one country<sup>61</sup>

Filipino labour has been attracted considerably to Hawaiian sugar plantations. It has also found employment in California. There has thus occurred considerable immigration and emigration of Filipino citizens. The extent of net foreign immigration as well as of Filipino labour is set out below<sup>62</sup>

Period	Net Immigration of Chinese & Japanese	Net Arrivals and + Departures —
1925-29	10,728	+ 47,811
1930-34	6,589	— 13,397
1935	3,885	— 3,082
1936	6,583	— 2,303
1937	6,665	
1938	6,712	

*Vital Statistics* It must be noted that the extent of immigration and emigration is not considerable. Therefore in gauging the extent of growth or decline we must taken into consideration the rate of growth. Below are set out birth and death rates over a period of years<sup>63</sup>

#### BIRTH AND DEATH RATES

	Birth rate per mille	Death rate per mille
1911-13	32.9	19.1
1921-25	32.6	18.0
1926-30	32.7	18.1
1931-35	31.4	16.4
1936	32.0	15.8
1937	33.2	16.5

	Birth rate per mille	Death rate per mille
1938	32.4	16.5

The birth-rate seems to be steady and the death-rate is slowly declining and thus we reasonably forecast a growing population for Philippines.

*Crop Land* Extent of crop land is not known. The census of 1918 showed that only 53% of the area belonging to farms was actually under cultivation. A comparison of farm areas since 1934 shows that about 63 to 65% of each farm only was cultivated<sup>64</sup>

Area under Principal Crops (in 000's hectares)<sup>65</sup>

Crop	1934	1936	1938
Rice	2,004	2,049	1912
Cocoanuts	608	632	643
Sugarcane	306	251	228

In 1918 about 18% of cultivated area was double cropped. On the whole the population of Philippines is far less hard pressed for land than are the peasants of China and Japan. If there is a land shortage in certain parts of Philippines it is due to the maldistribution of population which can be rectified by migration, to the less developed parts of the island.

Philippine agriculture, like Indian agriculture depends upon the rains and dry years cause a very heavy loss to the islands. A dependable supply of irrigation water would make two crops a certainty where one is now more or less of a gamble.<sup>66</sup>

Through the maldistribution of population there has occurred a heavy reduction in the size of farms and there has come into existence a series of intermediaries between the owner and the cultivator. In 1918, there were 74,147 holdings below 35 hectares while there were 3,433 holdings of more than 100 hectares. But Philippines has large State owned land and it can be used for colonisation. With the reform of the land system and provision of better irrigation facilities, Philippines will be able to support a large population.<sup>67</sup>

Area and production of Rice in Philippines  
(000's hectares & quintals)

Year	Area	Output
1930-31	1879	21,216
1934-35		24,646
1939-40		20,902
1940-41	1964	
1941-42		

The output of sugar has also increased from 6,229,000 quintals to 9,510,000 quintals between 1934-1941. The same increase is noticeable in case of cocoanuts. A system of crop planning which would bring about a diversion of land from under cocoanuts to rice would be a major contribution to the solution of the food problem in Philippines.

*Manchuria* The total population of Manchuria was 39,454,026 in 1939. There is a considerable immigration of Chinese. This is set out below.<sup>68</sup>

## Net Immigration of Chinese (in thousands)

<i>Year</i>	<i>No of Immigrants</i>
1923	146 9
1930	259 7
1935	24 6
1938	239 6
1939	595 0

The Japanese Government had tried to settle Japanese in Manchuria, with financial state aid, but the extent of such immigration is inconsiderable. The birth-rate and death rates are not available and hence it is difficult to forecast the growth of population.

The area under principal crops is set out below (in thousand hectares) <sup>99</sup>

<i>Crop</i>	1925-29	1930-34	1935	1938
Soya beans	3475	3937	3249	3783
Maize	1074	1052	1236	1611
Wheat	1106	1336	980	1148
Rice	213	191	234	351

In some regions cultivated area and crop area may differ considerably from one another either because of fallowing or double cropping. The area under fallow is considerable in size in countries practising the western type of agriculture while double or multiple cropping is very common in countries with the oriental type of agriculture where climatic conditions allow such an intensive form of land-use. Chinese peasants seldom allow land to lie fallow but the climate hardly permits the growing of two crops.

*Size of the Holdings* Land is very unevenly distributed. In a number of small holdings. The Manchurian peasants very often own no land at all but till only rented land. Average size of a holding is 2.8 hectares. As long as a major portion of the crop goes to land lord, the income of a large number of peasants is so small that capital accumulation and farm improvements are almost impossible. The Japan Manchukuo Year book states that 'the tenancy system smacking strongly of feudalism inevitably accelerates a retrogression of farming technique'.

## VI CONCLUSIONS

Our survey of the food situation in relation to population growth brings out certain features of the general 'food and population' situation. The first is the inadequate production of cereals from the elementary view point of quantity—the situation of course is much worse from the point of view of nutritional adequacy. It is estimated that for a working adult engaged in ordinary agricultural or other manual work the calorific requirement is 2500-2600 calories per day. The food available in normal times was inadequate to provide more than 1700-1800 calories per capita.<sup>70</sup> Let us sum up the food situation in the three major groups.<sup>71</sup>

In normal times, the countries in Middle-East Asia were self-sufficient with regard to their food requirements with the major exception of Palestine. Palestine depended largely on imported food, a dependence which in spite of efforts to grow more food was not reduced to any appreciable extent. The population increase between 1935-45, was of a rather high order, being more than 45%.

Iraq increased food production during the war, paddy-rice production, for instance, increased from 1,80,000 to 3,20,000 short tons and exportable surplus of barley reached the all-time high of 2,00,000-3,00,000 tons a year. A surplus of livestock was also available. But Iran normally self-sufficient (on subsistence standards) experienced a series of crop failures and thus faced food-shortage during war years.

India was normally almost self-sufficient in food-imports amounting to only 3% of total cereal production. The diet was almost exclusively vegetarian in origin and in the absence of a food buffer constituted by rational animal husbandry, some areas were normally on the verge of famine, malnutrition was the rule rather than the exception in the whole country. Primitive agriculture carried on by ill-equipped farmers in small fragments of land, cannot cope with the needs of a rapidly increasing population, and a small disturbance in supply and distribution can lead to disastrous results. The measures taken by Governments have not sufficed to produce adequate food for domestic needs and the country continues to be unable to care for her expanding population. Even a moderate decrease of cropped area or yields causes widespread starvation.

The food situation in China as in India is characterised by strong population pressure on available resources. People exist on a low dietary level mainly of local products and a crop failure or break down of communications results in extensive famine. It would appear that war affected food production less than could have been feared. The bulk of food was consumed near the areas of production and there was no appreciable shortage of agricultural labour. Indeed inflation seems to have stimulated agricultural production and in Free China



the Government encouraged production by new agricultural schemes, e.g. more extensive double-cropping, distribution of improved seeds etc., there were local shortages, of course, but they were temporary.

Japan was normally an importer of food. During the war, domestic production and imports tapered off. Domestic food production at the end of the war was 20 to 25% of pre-war and imports almost ceased. The diet per capita before the war was estimated at 2300 calories a day, by 1944 average consumption was about 2200 calories, of which 1600 calories were derived from domestic production. The end of the War has thus brought about a further considerable reduction in supplies and per capita consumption has fallen below 1000 calories.

The foregoing remarks underline the failure of domestic production to come up to the minimum quantitative requirements of domestic consumption in all the major Asian countries. This does not of course mean that there is inadequacy in food supplies in all the countries, in fact all the countries of Asia may be divided into three broad categories—Countries like Burma, Siam, Iraq, Iran, Indonesia may be regarded as surplus economies, Indonesia and Philippines may be regarded as countries with potentialities for a surplus, while India, China, Japan, Malay, Palestine may be regarded as subsistence economies with frequent shortages.

*Low yields* The basic factor underlying inadequate production of food is the primitive character of agricultural economies of most of these countries. With highly uneconomic holdings, the scale of production is not such as to contribute to efficiency in production. Peasant proprietorship has not proved to be a blessing in Asia.<sup>2</sup> Manure, either stall or synthetic, is rarely used and mechanised and scientific farming is almost non-existent. Consequently it is not a matter of surprise at all that yields are very low in most of the Asian countries. These yields again are declining or at least remaining stable over a period of years. The following table giving rice yields (in quintals per hectare)—rice is considered as being the most largely consumed staple in Asia—for Asian countries are significant.<sup>3</sup>

Year	Burma	French Indo- China	China	Formosa	Japan	India	Sri Malaya	Ceylon	Java and Madura	Siam	Philippines
1921-22	8.9	6.5	15.4	15.2	21.6	9.7	9.5	8.2	10.0	9.4	7.8
1921-22	8.1	6.5	12.7	15.9	22.7	10.1	10.1	5.2	9.7	8.2	7.4
1922-23	8.1	6.5	12.3	17.9	22.4	9.4	8.7	5.9	8.5	9.9	7.2
1923-24	10.0	6.7	14.5	16.4	22.4	9.2	10.9	5.9	8.5	8.6	7.4
1924-25	10.5	7.0	16.3	22.8	22.3	8.2	11.2	5.9	10.2	8.0	7.8
1925-26	9.1	—	12.4	—	22.0	8.2	10.4	5.2	10.2	8.0	7.6

In the face of expanding populations and relatively stable yields it is obvious that the need for increasing imports should be felt.

*Need for exports* But imports can only be secured by paying for them by exports. If we take the present pattern of industrialisation in Asia, it is true that some of these countries are in a position to pay for their imports by sending out exports. India for instance can supply Burma, Siam, Indonesia etc with manufactured goods like textiles and get her food needs in exchange. This complementarity is significant and may provide that mutually necessary exchange which is so significant for the solution of the food problem of deficit countries. The present pattern of industrialisation however is bound to change due to the fear of war and long drawn lines of communications. Each country will try to aim at a certain degree of self sufficiency in fundamental necessities of life, the scope for mutual exchange is thus likely to be restricted. The need for an increase in the home production of foodstuffs is thus essential, self sufficiency in food should therefore take top-priority over all other objectives.

*Crop Planning* In some economies like the Malay economy, which is deficit in food but has ample land resources in the form of area under rubber a direct Government planning of areas under rubber and rice would be an ideal way of increasing food production. This would mean in the particular case of Malaya, restriction of acreage under rubber (which is threatened by competition from synthetic rubbers like Buna S and Buna N) and extension of rice-acreage. This solution will also have to be adopted by other countries, they will have to bring about a switch-over from cash crops to food crops by appropriate co-ordinated price policies in regard to both of these types. Such a switch over should continue until the domestic production comes up to the minimum (quantitative) nutritional requirements.

#### *Agricultural Planning and stabilisation of Agricultural Prices* <sup>23</sup>

Since low agricultural productivity cannot be cured by piecemeal and haphazard measures every country will have to resort to comprehensive planning of national resources. In order to reduce the proportion of the people dependent upon the soil, industrialisation both large scale and small scale will have to be developed.

Since, in Monsoon Asia, rainfall is the governing factor in production, its vagaries have to be corrected by irrigation projects which would not only give some security to the agriculturist, but would also make possible double-cropping in regions where the rainfall is comparatively even over a period of years. It may also make Hydel power available at cheap rates to the agriculturist and thus promote decentralisation of industry, which may bring in its train the usual blessings of regional dispersion.

But the main factor that would really help in the achievement of self-sufficiency in food is the guarantee of stable markets at remunerative prices to the agriculturist. Such a price will have to be fair not only from the point of view of producers but also from that of the consumers. It is true that

these two group will coincide in many instances but where they do not, the task of reconciling the conflicting interests is bound to be a Herculean one. A Price-Council (consisting of the representatives of the various sections of the community) with a price administrator at the head with adequate powers to watch and control prices would be very helpful in such a task.

Each Government will have to take to itself the monopoly of internal procurement and of foreign trade. It will have to maintain buffer stocks which can be used for open market operations (in grain) which would allow prices to fluctuate between a floor and a ceiling for each important commodity. In case of short supplies, the Government or Governments will have to solve the problem of the equitable distribution of the incidence of the shortage, by a comprehensive scheme of rationing. The constructive work of building up a progressive agricultural economy may, at a later stage, justify the liberalisation of price-administration.

The marginal deficits in case of certain countries (which might be reduced still further if they adopt, as they are expected to adopt, huge plans of agricultural regeneration) can partially be made up by the marginal surpluses of countries like Burma, Siam, and Indonesia. This complementarity was obvious even in pre-war years. The industrial or semi industrial countries like India, China and Japan used to find natural advantage in exporting their manufactured or semi-manufactured goods and getting in exchange, rice from these countries. This complementarity can be actively nursed with due regard to the industrial potentialities of all Asian Countries.

*Control of Population* Pressures of population are the most obvious feature in the overall picture of population and food supply in Asian countries. The stock solution for this overpopulation is limitation of numbers through neo-Malthusian devices, but he would be an incurable optimist who would hope for striking results from the use of such devices by Asia's teeming millions. Demographic experience the world over points to expanding rather than shrinking populations as concomitants of early stages of industrialisation. In Asia incipient industrialisation has got under way only in a few countries. In most of them it has hardly started yet. A growth rather than a decline of population in Asia as a whole may therefore be safely forecasted. Family limitation generally accompanies later stages of industrialisation, when through growing urbanisation and through increasing sense of individual responsibility, people begin to prefer limited responsibilities and improving chances of a better life, for themselves and for their children.

The above remarks are not offered as a disparagement of efforts at family limitation. In fact, planning of population will have to be a vital part of the wider schemes of national planning. It has to be emphasised however that unless it is accompanied by increasing industrialisation and the general urbanisation of life, its progress will be very slow and halting.

*Emigration* In certain countries, Indonesia, Malaya, Philippines, considerable opportunities exist for inter-national redistribution of population, but scope for intra Asian migration will be limited. Considerable scope for inter-continental migration however exists, especially in the North-West (Tropical) regions of Australia and in East and South Africa. But political factors are likely to obstruct the execution of such a policy of inter-continental migration. We have heard latterly much about free access to the raw materials of the world, we should, therefore plead, with equal right, for free access to the vacant spaces of the world.

It is along these lines of inter continental emigration, greater internal food production for each country, planned industrialisation and, as far as possible the wedding of marginal surpluses and deficits of Asian countries themselves, that some solution of the staggering problem of population pressure in Asia, may be found.

## FOOT NOTES

- (1) *Vide* Zimmermann Etich W *World Resources and Industries*, p 124
- (2) R Kuczynski: *International Labour Review*, Vol XXXIX, No 3 March 1939, p 309.
- (3) Zimmermann *op cit* p 122.
- (4) The idea of the net reproduction is popularised by Dr Kuczynski. The net reproduction rate is said to be unity where 1000 women at the end of their reproductive period (generally taken to be 15-45, but may differ for different races and climes) replace themselves by an equal number of girls of child bearing age. The concept is very helpful in understanding the expansionist or contractionist tendency of population growth. In Asian countries, vital statistics are not well-organised and hence it is difficult to compute net reproduction rates.

In India, two or three attempts at such computation have been made (The reader may be referred to the earlier attempts by P M Lad in his contribution to the *Economic Problems of Modern India*, edited by R K Mukerjee, Vol I, and to N V Sovani's *Population Problem, a Regional Approach*, 1943). A very brilliant note by D Ghosh explains the technique of measurement of population growth very lucidly, p 27, D Ghosh *Pressure of Population and Economic Efficiency in India* (Indian Council of World Affairs, Nov 1946). Brij Narain in his latest publication *Economic Structure of Free India* p 19 (Indian Book Company, Lahore) has (by use of fertility tables from 1941 census) arrived at a net reproduction rate of 1.19. For Japan, the League of Nations *Statistical Year Book* 1942-44 p 56 mentions the following as net reproduction rates for various years

Year	Net Reproduction rate
1925	1.640
1930	1.571
1937	1.40

A rate above unity foreshadows expanding population, a rate below unity a shrinking population.

- (5) *Vide* Kuczynski *op cit* pp 301-2
- (6) Colin Clark's *Conditions of Economic Progress* bears out the contention of Sir William Petty "There is much more to be gained by manufacture than Husbandry, and by Merchandise than by Manufacture". Industrialised countries have generally the highest per capita national

incomes A recent publication of the League of Nations entitled *Industrialisation and Foreign Trade* (pp 26-27) gives the percentage distribution of gainfully employed population in many countries. The following figures chosen at random will bring out the difference between industrialised and backward economies

Country	Year	Agriculture & fishing	Commerce Transport etc
UK	1930	7	56
US	1930	22	36
Japan	1930	50	30
Fr Indo-China	1930	71	
India	1931	72	17
Siam	1930	72	
China	1930	70-75	
Indonesia	1930	73	
Iran	1930	76	

It would be through industrialisation alone that some relief from population pressure may be sought and some attempt made towards raising national real incomes

- (7) *The Statesman's Year-Book*, 1944, pp 693-694
- (8) *The Statesman's Year-Book*, 1944 pp 196-197
- (9) *League of Nations Statistical Year Book*, 1942-44 pp 41-42
- (10) *League of Nations Statistical Year Book* 1942-44, pp 108-110—  
Compiled from the tables on Wheat and Barley Production.
- (11) Compiled from the Wheat and Barley Production cited in (10) above
- (12) Schultz T. W (ed), *Food for the World a symposium*, p 183
- (13) Compiled from *League of Nations Statistical Year Book*, 1942-44, pp 108, 110 and 116
- (14) Selon Lloyd *Iraq* p 8 (Oxford Pamphlet on Indian Affairs No 13).
- (15) Compiled from *League of Nations Statistical Year Book* 1944-45 pp 108, 110
- (16) *League of Nations Food Rationing and Consumption*
- (17 & 18) Treatment of Indian problem is based mainly upon the copious information contained in Famine Inquiry Commission's Final Report 1945 (also known as the Woodhead Commission's Report)

- (19) Famine Inquiry Commission's Final Report 1945 p 75
- (20) " " " " 75
- (21) " " " " 77
- (22) " " 80
- (22a) The low yields and consequently the low outturns for Indian crops are worth noting During the decade 1929 30—1939 40 the total outturn of rice was about 2 60 00 000 tons, of wheat round 1 00 00 000 tons of Jowar round 60,00 000 tons of Bajra round 20 00 000 tons see *Estimates of Area and yield for Principal Crops in India 1940 1941 (1942)*
- (23) See note (4) above
- Vide R A Fisher's evidence before Population Data Committee see p 87 Famine Inquiry Commission's Final Report
- (25) Information regarding Burma is based mostly on the facts contained in Ma Mya Seio's, *Burma*, Oxford Pamphlet on Indian Affairs No 17.
- (26) Compiled from the statistics regarding Birth and Deaths, *League of Nations Statistical Year Book 1942 44*, pp 41 42
- (27) Compiled from *League of Nations Statistical Year Book 1942 44*, p 116
- (28) Compiled from *Statistical Year Book of League of Nations*, pp 41 42
- (29) *Statesman's Year Book 1944*
- (30) *Statistical Year Book of the League of Nations* pp 116
- (31) Cited in Pelzer Karl J *Economic Survey of Pacific Area*, Part I Population and Land Utilization p 47
- (32) Sir Josiah Crosby's estimate in *Siam*, (Oxford Pamphlet on Indian Affairs No 26)
- (33) Vide *Statistical Year Book of the Kingdom of Siam*, cited by Pelzer as Table 41 *op cit* p 48
- (34) Sir Josiah Crosby; *Siam* (Oxford Pamphlet on Indian Affairs No 26) p 19
- (35) *Malayan Year Book 1939*, pp 33, 36 37 cited as Table 43, p 50 in Pelzer
- (36) The reader's attention is drawn to pages 52 53 of Pelzer's book, cited above
- (37) Vlieland C A, *The Population of Malay Peninsula, A study in Human Migration Geographical Review* Vol 24, 1934, p 77
- (37a) G S Rawlings, *Malaya Pamphlet on Indian Affairs* (Oxford)

- (38) Vide Henry Y M , *Economic Agricole de l' Indochine*, cited by Pelzer
- (39) Adapted from Table 34 p 45 in Pelzer, already cited
- (40) Adapted from Pelzer Table No 57 p 137
- (41) *League of Nations Year-Book*, 1942 44, p 116
- (42) Adapted from Pelzer, Table 56, p 58
- (43) All the three tables are constructed from data contained in Pelzer pp 56 57
- (44) *League of Nation's Statistical Year Book* 1942 44, p 116
- (45) Quoted from J L Buck, *Land Utilization in China* p 363 and Willcox, *Population of China and its Modern Increase*, 1937
- (46) J L Buck *Land Utilization in China* p 363
- (47) J L Buck, *Land Utilization in China*, p 384
- (48) Adapted from Table 26 in Pelzer p 35
- (49) J L Buck *op cit* p 363
- (50) J Russel Andrus *Basic Problems of Relief Rehabilitation and Reconstruction in South East Asia* pp 28 30
- (51) Pelzer Table No 22 p 105
- (52) Pelzer p 107
- (53) Cited in Pelzer, p 108
- (54) Pelzer Tables 19 20, pp 28 29
- (55) Uyeda *Future of Japanese Population*, (1933)
- (56) } Ryoichi Ishii *Population Pressure and Economic*
- (57) } *Life in Japan* (1937) pp 126 129 p 209
- (58) Swen W Y and Alsberg Carl L., *Japan as a Producer and Importer Wheat Wheat Studies Vol VI July 1930* p 353
- (59) Population figures from *Statistical Abstract of United States*, p 10 cited by Pelzer p 37
- (60) The chief of such schemes in Mindanao Resettlement Project A hundred pesos were released as an emergency allocation for organizational work on this scheme
- (61) The words of President Quezon in a message to the National Assembly are worth citing in this connection To protect the interests of our people and repair the injustice done to certain races we should pass a new immigration law Ours is an Oriental country and we are an Oriental people belong to the same racial stock as some of those excluded by our laws So long as foreigners are allowed to



emigrate, we should admit under the same terms and conditions, those coming from other Oriental Countries. *New York Times*, January 25, 1939, cited in Pelzer, p. 38.

- (62) Pelzer : Tables 29 and 31 have been summarised, pp. 40-41.
- (63) *League of Nations Statistical Year-Book*, 1942-44. pp. 41-42.
- (64 & 65) Adapted from Table 53, p. 128 in Pelzer.
- (66) Pelzer: p. 129.
- (67) *Statistical Year Book of the League of Nations*, 1942-44, p. 116
- (68) Pelzer: P. 26, Table 18.
- (69) *Statistical Year Book of the League of Nations* 1942-44 compiled from p. 116, 108, 114, 133.
- (70) Aykroyd, *Nutrition*, (Oxford Pamphlet on Indian Affairs.) No 21.
- (71) Adapted from League of Nation's publication *Food, Famine and Relief* 1946, pp 68-71.
- (72) From *Rice Economy of Monsoon Asia* by Wickizer and Bennett, p 318  
These yields appear to be lower still when we compare them with the yields in other countries. In Italy, this yield is roughly 36 quintals per hectare for Rice.
- (73) It is not possible to go into the implications of price-incentive for agricultural production But a case for price-stabilisation mainly rests on the difficulties of adjustment of agricultural production How acreage and production were affected from Tables I and VIII in Wickizer and Bennett's, *Rice Economy of Monsoon Asia*, pp 314 and 330.

Again the problems of relation between partial planning or total planning have also been left out of consideration. But it is to be emphasised that we realise the necessity of total rather than sectional planning of resources The stabilisation of agricultural prices is not recommended as a measure for stereotyping the present agricultural inefficiency but for rationalising agriculture itself Other problems such as those of closed economy, which a stabilisation programme would require, are left out of consideration, since the issues which these would raise transcend the limits of this paper

ASIAN RELATIONS  
CONFERENCE

*March—April 1947*

CO-OPERATION AMONG  
ASIAN COUNTRIES IN  
AGRICULTURAL RESEARCH

by  
J N Mukherjee

GROUP D CULTURAL PROBLEMS  
TOPIC III CULTURAL PROBLEMS

INDIAN COUNCIL OF WORLD AFFAIRS  
NEW DELHI

J. H. MUKHERJEE, formerly Professor of Chemistry in the University College of Science, Calcutta, and now the Director of Indian Agricultural Research Institute, New Delhi, has done pioneer work in the field of electro-chemistry of colloids and of clays. He was a member of Indian Scientific Mission to USA and UK (1945)

# CO-OPERATION AMONG ASIAN COUNTRIES IN THE FIELD OF AGRICULTURAL RESEARCH

## Introduction

Asia is the largest continent. It has a larger population than any other. But it is mostly concentrated in two countries - India and China. Japan, Java and Ceylon are also densely populated. The distribution of population has been largely determined by climate. Monsoon Asia therefore accounts for the greatest concentration of population.

Although diverse in many respects, ethnologically, historically and linguistically, the ancient culture of these countries bears a common heritage, a heritage born of a religion, Buddhism, which radiated from India its influence throughout the countries in the Far East through Ceylon, Burma, Malaya, Siam, China, the East Indian Archipelago and lastly Japan.

Westwards, this influence had not travelled. As Dudley Stamp puts it, 'long before Europe had discovered Asia, Asia had discovered Europe'. This is true of trade contacts by land and sea routes, from East to West, along which travelled peoples and religions as well. Later came the reversal of the order out of a desire of the West for trade in the East in precious articles and for knowledge in the manufacture of silk, paper and cloth. This opened out avenues of closer understanding of the prevailing

culture of the East, not only between the Mediterranean countries and those adjacent to it but also with countries across and beyond India. The spread of the Islamic culture from the Middle East is equally responsible for fostering good relations and understanding. India has been the apex of these cultural contacts. History tells us in greater detail how these Asian countries have been knit together culturally since the dawn of the Christian era.

In spite of this cultural unity of the past, each country has remained practically isolated and developed itself in its own way according to its own needs. None however has ever grasped the hand of its neighbour for mutual help. Even during the more recent times when science began to rule the destiny of mankind, there has not been any effort between neighbours to make a common endeavour in any sphere of human activity.

The last war has taught us at least two lessons, viz., (1) that no nation can live in isolation, and (2) that effective co-operation and collaboration in matters economic and scientific between countries and nations is the only way to progress and evolution of human society. While it may be generally true of all the nations of the world, it is truer in the case of those who live in close proximity of one another. Because between them there may lie common problems which require a co-operative

scientific approach for their solution. Of all of them food is the most pressing.

'In this task', to quote Mr. Winston Churchill, 'the scientists of the world united by the bond of a single purpose which overrides all bounds of race and language, can play a leading and inspiring part'. (Editorial of Nature, January 15, 1944)

The war has shown what co-operative research can achieve. The war would perhaps have lingered on for a greater length of time but for the atomic research which was planned and organised on voluntary partnership. Similar effort will undoubtedly shorten the period of hunger through which almost all the peoples of Asia are passing.

#### Co-operation in Agricultural Research

There has been an all-round effort in every country of the world to implement with the utmost rapidity its post-war plans and policies. Food and agriculture occupy an important place in these plans. But the execution of such plans requires intensive research, the need for which has been universally recognised. It is also recognised that progress in agriculture depends on the proper planning and co-ordination of researches in all branches of agricultural science aimed at the solution of the very large number of problems which face every country wheth

whether in Asia or outside. The results obtained in India in regard to wheat, cotton, sugarcane etc. in the dissemination of improved varieties with the eventual increase in crop outturns demonstrate what planned and coordinated research can achieve.

But science is international and knows no boundaries. Each country can benefit from the experience and knowledge gained in other countries. Co-operation in the field of agricultural research, specially amongst the workers in Asian countries due to their many common and similar problems can go a long way towards the rapid development of this important industry which is the mainstay of the vast majority of the peoples of Asia. There are many ways in which this co-operation can be gained.

#### Plant Expeditions and Exchange of Plant Materials

utilisation. In the pursuit of these exchanges we should be free to work for the best ends of humanity without limitation of race or territory as Nature recognises no distinctions or boundaries.

### Soil Surveys

Our scientific knowledge of the adaptation and care of crops and of the responses of soils to management, needs to be put to work. Unless planning of such work is based on a sound soil classification, great and perhaps fatal risks to both soil and people are involved. As is well known, soil classification has both fundamental and practical values. It reveals the significance of soil characteristics and soil types to the growing of plants, management practices and land use. Without regard to the use of soil types in agricultural production, the studies on soil classification become limited in application. There are thousands of soil types in Asia under different climatic and vegetation conditions, but in the absence of a co-ordinated system of soil classification the results of research and experience of these countries have not been of much use. Through co-operation in this field much useful data can be collected which will enable us to employ them economically in the successful handling of the various problems of agriculture, such as, cropping systems, land use,



soil fertility, erosion and reclamation, and irrigation.

While the exigencies of the times may demand immediate attention to the production of certain important commodities, the long-term plans should aim at improving and increasing the production of a wider variety of subsistence crops and saleable agricultural products which should complement those of other countries within the continent of Asia, thus increasing the productive capacity of the people, raising their standards of living, stimulating both domestic and inter-Asian trade and generally promoting those activities which lead to friendly, cultural and commercial relationships.

### Exchange of Technical Information

In the pursuit of cultural, economic and scientific collaboration, exchange of knowledge and information plays a very important part. The success of this endeavour is largely dependent on the ability of a country to exchange relevant information with the workers in other countries. In agricultural science such a mass of data has been collected in each country that their dissemination and interchange will go a long way to solve some of the outstanding problems which otherwise have to be investigated at a considerable cost. Interchange of information regarding the yield of crops and improved varieties cultivated, cropping systems in different areas and the agricultural practices

in relation to different methods of land use will be of immense mutual benefit. Such an interchange would be possible through the exchange of publications in the form of books, journals and reports; translating publications of special importance into different languages, and through an elaborate system for abstracting published literature. Direct interchange of information between the workers engaged on similar problems will also develop a wholesome system of personal contact which is bound to yield quick and useful results. It would also be necessary to have an organisation in Asia which will not only handle all scientific information but arrange for its quick dissemination in a manner which will obviate the difficulties of language. This organisation should also act as a central repository of scientific literature and should be able to furnish photographically reproduced copies of articles whenever occasion arises. But the dissemination of scientific information should not be confined to the scientific workers alone. To the farmers who practise agriculture and to the people who enjoy the fruits of their labour, scientific information would have to be communicated in order to enable them to understand that 'science has become a public necessity and its deliberate utilisation is necessary for promoting social welfare and economic betterment'. (Saha, Wadia, Bhatnagar. Dissemination of scientific information — Paper read at The Royal Society

Empire Scientific Conference, 1946)

### Personal Contact

But total scientific and cultural collaboration is not possible through the press alone. Personal and group contacts are essential in bringing about closer relationships and deeper understanding and friendliness between the collaborating countries. For this purpose visits of experts in the various fields of scientific research, from one country to another, would be of immense value. The Agricultural Missions to India from China and Turkey and the Indian Agricultural Missions to China and the Middle East provided meetings of scientific workers of these countries in which exchange of ideas and thoughts proved to be of value and mutual advantage. Not only did they bring first-hand knowledge of the agricultural practices and techniques obtaining in their own countries but also enabled others personally to discuss problems and compare notes to elucidate points of common interest. Besides, periodical meetings of specialists such as soil scientists, agronomists, botanists, entomologists, and mycologists at different places should be organised. This will help forward, not only the cause of science but also the cause of collaboration, and bring each country nearer to the other. Outstanding problems of importance can thus be resolved more quickly than

through any other channel.

### Exchange of Scientific Personnel

Another aspect of mutual co-operation may perhaps be the exchange of scientific personnel - research workers, fellows and students who would thereby acquire experience of working in the scientific laboratories of countries other than their own. They should also acquire latest knowledge which they can apply in their own countries on their return. Good social relations are bound to gradually develop and may have far-reaching beneficial repercussions in the future.

### Organisation

But to establish adequate scientific and cultural liaison between the Asian countries, there should be an organisation which should be so formed as to be representative of all participating countries. While the latter shall act as autonomous units within their domestic spheres, they should be guided by the proposed organisation in matters of collaboration and co-operation between the different Asian countries. This organisation is expected to play its part in the international sphere and should secure the recognition of the U.N. and the UNESCO.

ASIAN RELATIONS  
CONFERENCE

*March—April 1947*

RACIAL PROBLEMS  
IN ASIA

by  
D N Majumdar

GROUP B MIGRATION AND RACIAL PROBLEMS  
*TOPIC II RACIAL PROBLEMS*

INDIAN COUNCIL OF WORLD AFFAIRS  
NEW DELHI

D N MAJUMDAR is Reader in Anthropology, Lucknow University. He was the President of the Anthropology Section of the Indian Science Congress, 1939. In 1946 he was asked by the Anthropology and Psychology Section of the National Council of Research, USA to write a memorandum on <sup>5</sup> India. Among his publications are *A Tribe in Transition* and *The Races And C Of India*.

This paper has been submitted to the Asian Relations Conference by the ~~author~~ <sup>author</sup>.  
The author alone is responsible for statements of fact or c.

## PREFACE

I am grateful to Miss Esther Newton, B.A., my pupil who has made all the charts printed with the text and to all those whose work I had to consult in the preparation of this memorandum. Particular mention must be made of Lancelot Hogben's *Genetic Principle in Medicine and the Social Sciences*, Ashley-Montague's *The Man's Most Dangerous Myth—The Fallacy of Race*, Osborne's *Men of the Old Stone Age*, Haddon and Huxley's *We Europeans* and Wiener's *Blood Groups and Blood Transfusion*.

D N M

PRINTED BY G S PRESS MADRAS  
FOR I C OF W A, DELHI 10-3-47



## RACE AND REASON

A discussion of race problems must be preceded by a proper knowledge of the laws of heredity while any account of modern genetic principles in their application to medicine and the social sciences must not ignore the race problem as such. But the treatment of race problems as is usually done by scientists not to speak of laymen or politicians has clouded rather than cleared our understanding of the race factor in our social relations. Even men of science who are accredited leaders of thought and practice in their own specialised branches often behave like laymen when they overstep the frontiers of their particular branch of science. Much of the pseudo-scientific dogmas about heredity and environment race and racial welfare have been the direct results of their unbalanced statements based on insufficient or even incompetent knowledge of scientific facts. Truth certainly cannot be advanced by denying the existence of large groups of mankind characterised more or less by distinctive physical traits. Neither is it served by *emphasising taxonomic differences or suggesting as some do, that the races of mankind are species as they have originated from different species of apemen*

Slight metrical differences a little difference in the shade of skin colour or the texture of the hair have been seized upon by anthropologists to distinguish races and sub-races. Coon in Europe Guenther and Eickstead in Germany Ronald B. Dixon in America Chi Li in China Ruggeri in Italy and others have created a large number of races and sub-races on the basis of slight differences. The reality of the race situation today as it was even in the palæolithic age is admixture blends and combinations and no nation or so-called race today can be taken to represent any ethnic type in the sense physical anthropology understands it.

### What is Race ?

The use of the word race in scientific literature in a zoological sense is credited to Buffon whose six fold classification of mankind is said to be based on rigid marshalling of available scientific evidence on race relationships. Huxley defined race as a zoological term. Race today is understood more in a genetic sense. Genetic characters are those which depend on genes and do not vary under the stress of external circumstances. In recent years genetic

analysis of human racial differences is restricted to the determination of blood groups and their frequencies in different geographical localities. A large mass of blood groups data exists on the basis of which various theories of race relationships have been suggested. The four blood groups O, A, B & AB are found to have a capricious distribution. Yet it is possible to map out the migration of blood and if we correlate the group frequencies with the history of human dispersion from pre-historic times onward, we may get some explanation of race movements and stabilisation of race types in particular geographical regions.

Bernstein advocated a theory in which he claimed an original pure race, in which neither A nor B agglutinin existed. This was the R-race. A B race has arisen from this R-race somewhere in Asia and an A-race had its centre of characterisation somewhere in Europe. If this theory could be proved, then probably it would have laid the foundation of a genetic classification of races. Ruggles Gates has reinforced this hypothesis by his mutation theory, which claims A and B as independent mutations from O. Statisticians, however, doubt the validity of the mutation hypothesis, as the present frequencies of four groups would have required at least a quarter of a million years if not more. Earlier investigations among isolated and peripheral people had shown the absence of the four blood groups particularly among the Amerindians, but later research detected concentration of all the groups in the human race and even anthropoid apes are found to possess all the four blood groups in varying proportions.

A racial classification on the basis of serological data was made by Ottenberg (1925) who divided the people of the world into six 'strikingly different types viz, (1) European, (2) Intermediate, (3) Hunan, (4) Indo Manchurians (5) Africa-South-Asiatic and (6) Pacific-American'. Snyder found seven types on the basis of genic frequencies or p q factors. (1) European, (2) Intermediate, (3) Hunan, (4) Indo Manchurian, (5) Africo-Malayasian (6) Pacific American and (7) Australian. In all these classifications the European has been found to belong to a distinct serological type due to the large incidence of A and little of B, while the Indo-Manchurian group is distinguished from other groups for its large B percentage. If both A and B are mutations from O, the serological evidence cannot account for racial differences. Although a large percentage of B is found among the various castes in India and its incidence increases eastward the Panjians, a proto-

Australoid tribe have 60% A and 20% B, while most of the primitive tribes in India show comparatively small incidence of B. A bio chemical index was worked out by Hirszfelds. The Europeans were found to possess a higher bio-chemical index than most other races. In the case of most of them the index was found to be above 2.5. Below is given the bio-chemical indices of the various castes and tribes in India (All authors)

#### Bio Chemical Index

Above 2		Between 2 and 1		Below 1	
Konyak Nagas	3.1	Khasts	1.9	Bengali Kayasthas	83
Paniyans	4.1	Anglo Indians	1.7	Mahisyas of Bengal	59
Angami Nagas	2.8	Bengali		Bengal Muslims Urban	55
Lushais	2.25	Brahmans	1.0	Do (Rural)	63
		Khasas of the		Bagdis of Bengal	75
		Himalayas	1.05	U.P. Kayasthas	71
		Korwas	1.46	" Chamars	54
		Bhoksas	1.86	Doms	62
		Mundas	1.02	Tharus	63
		Chenchus	1.73	" Criminal Bhatus	64
		Nairs	1.50	Karwals	65
				" Shias	78
				Sunnis	66
				Kshattriyas	85
				Brahmins	93
				Kurmis	68
				Todas	63
				Rajputs	89
				Pathan	94
				Maria Gonds	82
				Marhattas	83
				Syrian Christians	94

The bio-chemical index calculated from Indian data does not justify any classification of the races which puts the Europeans into a distinct serological category, for the only groups whose serological index was found to be about 2.5 were Paniyans, Konyak Nagas and the Angami Nagas. In other words, the Mongoloid and the Australoid or proto-Australoid tribes fall under Hirszfelds' European types, the Lushais, the Chenchus, the Bhoksas, the Korwas, the Anglo-Indians, the Nairs fall between 1.0 and 1.9 and the rest of the groups have an index of 1 and below. Nothing

therefore can be derived from the distribution of the bio-chemical index. The chosen limits are arbitrary. A modified race index was calculated by Wellisch on the basis of gene frequencies but the results did not instil greater optimism than that provided by Hirsfelds' index. Ottenberg found the blood groups remarkably stable where there was little or no racial admixture. The high incidence of O among the peripheral or isolated people has been regarded by Snyder as an indication that 'the majority of the peoples with a proportion of O exceeding 50% are island peoples or peoples living in regions more or less isolated, and so physically less liable to mixture'. The variation of the O percentages in India as found among the various samples investigated is given below.

---

O in the samples investigated  
(All authors)

---

Chamars	36 30	Mundas	33 33	Angami Nagas	46 06
Kayasthas	36 0	Chenchus	37 00	Lushais	32 63
Domas	36 0	Paniyans	20 00	Lonyaks	45 70
Shuas	35 91	Maria Gonds	28 46	Khasis	35 17
Brahmans	34 30	Todas	29 50	Anglo Indians	37 28
Muslims		Black Jews	73 60	Bengali Brahmans	35 20
(general)	32 58	Nairs	38 80	" Kayasthas	32 00
Khasas	30 67	Syrian	36 40	" Mahishyas	32 50
Kshattriyas	30 83	Christian	—	" Muslims	23 33
Kurmis	84 30	Mahrattas	29 25	Muslims (Urban)	33 10
Bhoksas	30 80	Rajput	28 80	Bagdis of Bengal	29 93
Karwas	25 33	Pathan	29 30		
Bhatas	27 48	Jat	33 20		
Tharus	27 10				
Khattis	32 00				

---

The general conclusion that suggests itself on the basis of the above data is that the incidence of O in India is nearly equal in all provinces and about one third of the observed frequencies are of O blood. The Naga tribes like the Konyak and the Angami have the highest O among the tribal groups, the proto-Australoid tribes except the Paniyans have all more than 30% O, the higher castes in India have a comparatively higher value for O than the lower castes and in one viz. the Black Jews of the Deccan the O percentage was found as high as 73.60%. The lowest O also was found among the Paniyans. If O is the core out of which other groups have been evolved as held by some serologists, then the

distribution of O in a population may indicate the degree of racial purity, an assumption which, however, is extremely unsafe to make with the serological data available till now

An attempt has been made by us in the United Provinces anthropological survey to find out the racial significance of blood groups \* The serological evidence is not enough to indicate racial distance between social types though, when these are read along with anthropometric data, a general measure of race affiliation and distance can be found out 21 samples were tested, and their inter-relations examined It was found that the various social types in the Province could be arranged in a scale of racial precedence so that as we proceed down the scale the racial status of the groups diminishes till we come to the tribal elements, whose distance from the high caste groups is definite and pronounced We took two mixed samples and we arranged the other samples on the basis of their distance from them. On one side we found all the higher castes, on the other the various tribal groups This was the broad picture, but when we attempted to compare the various castes among themselves we found that the differences in most cases were not statistically significant—a fact which probably showed that there was little correspondence between race and occupation, for most of the castes are normally occupational groups

What is true of blood groups today is that there is a higher frequency of A in Europe, of B in Asia and the peripheral people, primitive peoples of the world show little or negligible incidence of B or AB groups. Malone and Lahiri, Macfarlane, and Majumdar who have done extensive serological surveys in India, find a sufficiently high concentration of B in India and the intensity is maintained in China, Mongolia, Japan and in Malayasia Recent efforts to study blood groups on caste and community basis in India have shown that A diminishes significantly from the high castes to low castes while the latter show a preponderance of B, which, however, is not found among tribal groups in India Both Macfarlane and Majumdar have suggested hybridisation as a significant factor in determining a concentration of B among mixed castes, while the latter has found a high B percentage among those social groups castes and tribes in India who are exposed to

\*Majumdar, *Race Elements in Cultural*, Guj Res Soc Publication (1946)

unhealthy and inhospitable regions or are habitual victims of Malaria

The fluctuations of blood groups in Europe according to Woolard and Cleland prove if anything that the inhabitants of Europe today are thoroughly mixed. Another factor that has emerged from large scale serological surveys in India is that in provinces where the race elements are not very different the fluctuation in percentages of the various blood groups among the social groups examined is more or less parallel. In Gujarat where the Muslims have been recruited mostly from the high caste groups they show a similar blood groups frequency to the latter while the Muslims of Bengal the majority of whom have been converts to Islam from the aboriginal and semi aboriginal classes show an unmistakable serological association with the latter. But blood group is only a single anthropological character and should not be made to tell more than what it can. Just as mere dolichocephaly (long head) or platyrrhiny (flat nose) by itself gives us no clue to identity or dissociation of supposedly racial groups.

The distribution of the Rh factor in the various peoples of the world has been claimed to have some racial significance. Although our data on the Rh factor are yet scanty as the investigations have mostly been confined to the discovery of the relationships of the Rh gene with Erythroblastosis foetalis Khanolkar and Sanghvi (nature 155 427-428 1945) found only two Rh—in a group of 100 persons tested in Bombay while Greval and Choudhary and Dasgupta (1944) found 10% Rh—among Calcutta Indians. The Chinese (Wiener Sonn and Belkin 1945) have 1.5% Rh—and Asian Indians 7.1% (ibid) but the Negroes show 8.1% the Jews of Canada 8.37% and South Americans (Invernizzi and Yannicelli 1944) 17.86%. If 85% of human blood is Rh+ regional distribution may have a racial significance but the percentage variation within a country is so small that nothing definite can be proved from the incidence of this new factor in human blood.

When we take serological evidence along with that of anthropometry as for example shape of the head of the nose or proportions of the limbs our taxonomic criteria increase no doubt but the results are not very encouraging. Disappointment is bound to come when we compare say the Muslims of Bengal with those of the United Provinces or of Gujarat. While the Muslims of Bengal and Gujarat are brachycephalic the Muslims of the United Provinces are sub-dolichocephalic though popular opinion traces

the spread of the Muslims from the centre where they ruled for centuries. What is, therefore, true of race relationships in India, as in other parts of the world, is that there exists considerable amount of race mixture and hybridisation among the populations of the world. Widely separated races have come together in the pre-historic and historic ages have mixed blended and even crossed till today, even within the same culturally homogeneous population, the range of variation is often found to be greater than between two races.

### *Races in Pre-historic Times*

Anthropological research has shown that the early members of the human family were as diverse in structure and as extensively distributed over the world at remote geological times as the races are today. Whatever be the common ancestor of man palaeontological evidence points to the differentiation of the pre-historic races. Some of these became extinct like the Java man and his nearest kin the Peking man or even the Piltdown man. The geological strata in which the remains of the Java man were found can be identified with late pliocene or early pleistocene and, according to the estimate of Prof Osborne as early as between 475 000 to 400 000 years ago. The Heidelberg race must have flourished between 375 000 and 175 000 years ago and the massive jaw found in the base of the 'Mauer Sands' in Heidelberg though it shows no development of 'chin' must have been that of a powerful human being for the form of the teeth leaves absolutely no doubt about its owner who was certainly not *Simian*. The *Pithecanthropus* or the Java man had the smallest brain capacity, estimated at 855 c.c. as compared with 1230 c.c. of the smallest brain capacity found in a member of the Neanderthal race. The prominent width of the 'bony eye-brow ridges' above the orbits is similar to that of a Chimpanzee and 'greatly exceed those of the Neanderthal race and of the modern Australian'. New discovery of the remains of the race in 1936 tiny fragments of the lower jaw a large portion of a massive lower jaw with several teeth intact an adult skull etc., only corroborated the assumption of the *Pithecanthropus* racial types.

The China man known as *Sinanthropus* or the Peking man discovered in 1927 by Prof Davidson Black from a single molar tooth, which was corroborated by further discovery in 1929 of a fairly complete skull together with portions of jaw and teeth, is a

close relative of the Java man and is now called *Pithecanthropus Pekinensis*. The Rhodesian man may also be placed as a 'variant of the Trinit race' and shows probably the effects of geographical fixation. The Piltdown man whose remains were found in Piltdown in Sussex, England, is probably still an enigma, for although his brain capacity was slightly higher than that of the Java man, i.e. 1070 cms, it did not equal that of even some of the lowest brain types in the existing Australian races, the thickness of the pieces of the skull was nearly double that of the modern European skull, while the several kinds of the brain case under no circumstances could be identified with Simian forms, a fact which makes the 'Piltdown race more human in some respects and more Simian in others'. In any case, this race though most apelike yet discovered, had much in common with modern man, particularly in the absence of any prominent or thickened supra-orbital ridge. The age of the Piltdown race has been estimated to have been between 150,000 to 50,000 years ago and must have been in the third interglacial period. The most talked about pre-historic race whose remains were abundant is the 'Neanderthal' which must have continued till the palæolithic age between 50,000 to 25,000 years ago. They were the forerunners of the Cro-Magnon race, the ancestors of the present day races. The Neanderthal race also became extinct as no trace of them was found afterwards. The features of the Neanderthal skulls and skeletons persist in the different races of man today, and were probably absent in the Simian types. The brain of the Neanderthal man varied from 1200 to 1700 cc which compares favourably with that of modern man while their 'overhanging brows and receding forehead find their counterparts among the Negroid races'.

The first discovery of the Cro-Magnon race was in 1864 in Gower South Wales and the large number of skeletons discovered there and subsequently in other parts show that this race overran the whole of Western Europe and had most of the features of modern man. While the Neanderthals have not left much evidence of their intellectual and artistic activity, the Cro-Magnon have, and some of their achievements have been assessed by competent authorities as equalling those of modern man. Their inventive genius for fishing or for the chase must have been remarkable, while decorative art reached a high standard of perfection. Thus, as in the modern races, so also among the pre-historic races, there existed diverse structures and levels of cultural development and probably each racial group was stabilised in a particular geographi-



cal region. While it provided a fixation of types in particular areas, it also led to the extinction of some races as well as cultures.

### *Racial Drift*

Although it is difficult to assess the comparative rôles of hereditary differences and the physical environment in the stabilisation of racial types, it is certain that the same race in different geographical regions has produced separate blends or combinations. Movements of population have taken place in pre historic as well as in historic times, due to changes in climatic conditions as, for example, the sudden lowering of temperature in Europe compelled human and animal groups to seek shelter in caves and hill fastnesses while other causes were social upheavels, conquests, and warfare. Such widespread distribution of population over large areas must have broken down all isolation and encouraged free interbreeding. As 'all crosses between man are fertile', new types were formed by hybridisation which must have got stabilised in particular regions. All hybrid groups did not and could not survive. Mutations have been taking place throughout man's struggle with his environment some of which proved advantageous, others not, and therefore certain types continued to perpetuate their kind others lagged behind, ultimately disappearing, leaving behind traces only in their skeletal remains or in the remains of their handicraft.

### *Race Differences*

When the physical anthropologist discusses the morphological classification of races, the primary racial type may yield to his taxonomic technique, but when investigations are localised and the search light of his technique focussed on the many traits possessed by the members of the local group his classification of types becomes valueless until he can prove that the traits on which he bases his classification follow known principles of heredity. We do not yet know the range of variation of any physical trait in any population. The cephalic, nasal, facial, and orbitonasal indices, stature, weight, hæmoglobin percentages even blood pressure and temperatures to name only a few, vary within a given population in the same way as they do between races so that unless we know the relation between inter group and intra-group variability of the many anthropometric and somatological traits used for purposes of classification the problem of races will remain insoluble.

What was true of the palæolithic age, is more true of the present, and any analysis of race relationships in any country will show the extent of hybridisation and the strength of blends and admixtures

On the basis of craniological data from various sources including those of the specimens from the Anatomical Museum of München, and of Haberer, Reichr and Flower, there are 33 77% dolichocephals and 66 23% brachycephals in China. The dolichocephals are both leptorrhine and platyrrhine, about 40% being platyrrhine. Of the brachycephals, there are 45% platyrrhine and the remaining are leptorrhine, the total percentage of brachycephals in China is about 40%. The majority of the people are hypsicephalic. The dolichocephalic and leptorrhine element is found mostly in Shantung and the dolichocephalic platyrrhine element in Kansu and Kwangsi. In the Yangtse valley, the dominant type is brachycephalic, while the mesocephalic which is the dominant type in China, according to Chi Li, of the Tsing Hua Research Institute, is 'the cross of the two types'. As one proceeds to the South there, the stature goes down while a low-headed type appears with a dwarfish stature.

The Chinese stature varies from 161 8 cms in Kwangtung to 166 1 cms in Kiangsu and 169 0 cms in Chihli showing distinct constellations based on stature. Such differences should not be expected within the same race. The Spaniards according to Kolmogoroff have an average stature of 162 cms, the Finns (Wateff) have 166 6 cms, and the Danes (Maheprang and Hansen) 169 1 cms and they belong to different ethnic types. Though stature is a variable character and need not be taken as racially significant in the same way as other definite skeletal traits, yet when it is discussed along with other anthropometric traits it becomes significant. Dr Chi Li finds that 'the three types of Chinese stature are correlated with three types of head form and three types of nasal form (indices) and this is true for the craniological material as well as the anthropometrical although with some variations'. \* *The Formation of the Chinese People*, p 43

\*Recent investigations (*Am. Jour. Phys. Anth.* Vol 4 N S No 3 p 297) on migration and physical differences among the Americans and the Chinese show the latitude of changes in physical features of migrant races into different climatic regions than those to which for generations they were

## MENTAL INEQUALITIES

Nothing of scientific value has yet emerged from the study of mental differences existing among the known racial types and nothing substantial is expected until our techniques are properly standardised and the controls effectively applied. Mental tests are often made on the assumption that the groups so tested have cultural equality. Even the most competent investigator is apt to be misled by assuming that any given people in a locality living together for generations have similar social status, group differences may exist which may even escape the notice of trained investigators but can be evaluated only by those intimately familiar with the cultural life of the people. Subjective considerations often have militated against the scientific presentation of ethnological data and 'imperialistic outlook', has in no small measure interfered with the purely objective approach to human data.

The inferiority of the Negroes to the whites in all respects was ably argued by Dr Hunt in 1863, in a paper on 'Negroes' place in Nature'. Support for him came from unexpected quarters, some admired his approach to the problem, interested speculators thanked him for his objective evaluation. English liberals calmly disagreed with him, imperialists found justification for their missionary zeal in trade and commerce from the evidence so carefully sifted by him and in some quarters of America Hunt was dubbed a philanthropist, his services to mankind eulogised and dissenters were pulled up for illiberal naturalisation of scientific facts, and for unworthy imputation of motive. Scientific facts today are too formidable to warrant acceptance of such pseudo-scientific or interested speculations. A grandson of an Alabama slave is today one of the foremost chemists in America, undeterred by the constant and unequal fight he was forced to wage against his environment, he has won his legitimate place in the scientific

adapted and stabilised. Measurements of Chinese males born and raised in the United States of America are found to differ in certain specific respects from those of Chinese immigrants born in China. These differences consist in an increase in stature and in all measurements of the trunk and limbs other than chest depth, of the body indices hand and foot indices tend to be lower in the American born. The descendants of immigrants in America compared to their parents born in Europe showed a change in physical features and change of diet from a rice staple to wheat in Northern India has affected the rice eating unimmigrants from Bengal and Madras with respect to the mandibular measurements bizygomatic and bigonial, both.

world Today his researches have benefited his native country no less than that of any other living chemist Despite handicaps natural to coloured races, Negro scientists, authors, philanthropists and artists have attained international status and have compelled respect for their race in no uncertain way During the days of the slave trade, many slaves were conceded equal or superior status on account of their high intelligence They excelled their masters in many cases, but did not get social equality due to their being members of inferior races

In recent years a lot of data has accumulated on the subject of intelligence quotient of groups of children belonging to different races and sections of the same race, but no correlation of bodily and mental characters could be established which would be scientifically unassailable Brigham, Davenport, and Steggarda have provided comparative material on mental differences between races In all these investigations, there was an absence of a common denominator for comparative evaluation of mental capacity, as the tests were such that they failed to equate the social groups with respect to their knowledge of those tests Brigham, whose experiments were acclaimed as most formidable, himself gave his verdict against their acceptance, for he said 'that his claims were without any foundation whatever' Lancelot Hogben scrutinised the Jamaican data which were worked out by Davenport and Steggarda The number of adults selected for tests was not sufficiently large Not every effort was made by the investigators to 'equalise social conducts between the blacks, browns and whites', as among the blacks and browns investigated by these authors, 31 adults were prison inmates committed for petty larceny or acts of sudden violence while no prisoners were included in the white groups Even if the tests are taken as having been properly carried out, under controlled conditions, the results were not very encouraging as they did not establish any inherent superiority or inferiority of the three groups viz, Browns Blacks, and Whites For example in pitch intensity, and time and rhythm tests the blacks and browns were superior to the whites, in drawing tests the whites excelled the blacks and browns In puzzles, in detecting absurdity of ridiculous statements the whites showed unusual skill and were found outstandingly superior in ability

On the basis of the material presented by Davenport and Steggarda, Lancelot Hogben came to the conclusion that 'in some characteristics of a socially desirable nature the average Negro

proved to be a little better and in some cases a little worse equipped than the average white included in the investigation' Most anthropologists and psychologists agree with this conclusion. Had the environments equalised by a proper selection of the subjects for investigation, had the tests been such as would really measure innate ability and had the people subjected to such tests been really representative of the groups considered, the results would have been taken seriously and the difference found would tell what is expected of them. The present status of race studies is essentially a fluid one, nothing has been proved, nothing can be proved on the basis of the present tests and measurements, and nothing that has been proved is of any prognostic value.

### RACE MIXTURE

How far race admixture is taking place in various parts of the country will be evident from a reference to the serological data available for Muslim population in India and outside. The blood groups of the Makranis of Gujarat were examined and were found significantly different from the Makranis of Baluchistan. The Baluchis according to Malone and Lahiri (*Ind J Med Res* 1927 25) have 47.2% O, 24.3% A, 24.3% B and 4.2% AB showing comparative isolation according to Snyder. The Makranis of Gujarat most of whom have Baluch fathers and Bhil mothers have similar A and B and 9% more AB. The total B+AB among the Baluch (Malone and Lahiri) is 28.5% while that among the Makranis is 37.05%. There is 35.5% B+AB among the Panchmahal Bhils, 37.3% among the Rajpipla Bhils, 31.0% B+AB among the Bhils of Western Khandesh (*Current Science* Vol 14 No 5, p 129).

The Muslims of India as a general rule differ significantly from their co-religionists outside, both with regard to anthropometric and serological characters. For example the Turks have high A value and low B value. The total B+AB among them being 25.20% while the Calcutta Muslims show 45.70% B+AB, Budge Muslims show 48.30% UP Muslims 42.90% the Shias of UP 38.70% and the Sunnis 46.20% B+AB. The Syrian Arabs have 28.0% B+AB, Syrian Muslims 15.16% and Tunis Muslims 21.20%. The Pathans of the Punjab and the Frontier Province have 39.40% B+AB and the Hazaras 43.0%. With regard to A values the Muslims of India show similar dissociation from their co-religionists outside. For example, the Turks have 33.0% A, the Syrian Arabs

34%, Syria Muslims 42 20 4, Tunis Muslims 32 40% while the Calcutta Muslims have 24 6%, Budge Muslims 23 80%, Sunnis of U P 22 80% and the Shias 25 50%

The stature of the Muslims varies from province to province in India. While the U P Muslims have an average stature of 162 45 cms, that of the Muslims Waghers is 167 95 cms, of Mianas of Cutch 167 37 cms. The Khojas have an average stature of 164 47 cms, Memons 163 64 cms and the Sunni Borahs 162 91 cms. The same kind of variation is noticeable in Cephalic and Nasal indices as well. The Parsis who are an immigrant people in India have not all maintained their racial purity and both from the anthropometric and serological evidences they can be traced to more than one ethnic type. Although race admixture has been found everywhere, so much so, that today purity of race is indeed an abstraction, there are social and legal barriers to admixture recognised in most countries of the world inhabited by diverse ethnic groups.

About 30 states in North America have laws prohibiting inter racial marriages. In some states legislation is directed against miscegenation with Negroes in some against the Mongoloids. The Southern states contain a large coloured population and the legislation is meant to exclude Whites marrying Negroes and vice versa in the states west of the Mississippi bordering the Pacific with large Mongoloid populations the protection refers to marriages between White and Mongoloid stocks. Legislation is absent in those states where the population is homogeneous and consists of Whites alone. In Mississippi not only are marriages between White and coloured races prohibited by law, but even suggestions in favour of social equality or of intermarriage between Whites and Negroes are regarded as offences punishable by fine or imprisonment or by both.

Race, whatever be its biological basis however, is no expression of personality and culture. Biologists today do not concede that race presents irreconcilable differences in soul mind and blood. The soul of man is too abstract to be palpably different in shape the mind is too uncertain to admit of fundamental differences and blood is transferable from person to person and even from man to animal and vice versa within limits of course. Race is 'reason' when discussed from a 'laudable zeal for discriminating men' but is 'rubbish' when the bounds are exceeded. That is why Dahlberg one of the world's great biologists put 'Race, Reason and Rubbish'.

on the title page of a book on race biology Races are susceptible to cultivation and therefore the superiority of one race to another is at best a myth.

Racialism, as is known in America and in Europe, is the direct offshoot of Imperialism, as the theory of diffusion of culture is an inevitable consequence of imperialistic designs to dominate the world As an anthropologist recently remarked, had it not been for the exploitation of the coloured races in various parts of the world, the white race would have accepted the French ideal of 'equality, liberty and fraternity' in 'word' and 'spirit' The scramble for Africa, the vast potential resources of Australasia, the lifelines of trade and commerce and strategic points in a farflung colonial empire have provided the sanction for shocking experiences, that come in the wake of race conflict and the world needs a clear and dispassionate evaluation of racial claims

Race amalgamation cannot be tabooed for any biological reason that we know of Mixture may become deleterious if the mixed people result from the union of the inferior elements of two races The average mental equipment of one race must be the same as that of another however different the achievements of the races may be If two races mix freely the general result cannot be anything which is not warranted by the possession and equipment of the individuals belonging to the two groups mixing The cases that are usually referred to viz, of delinquency, alcoholism, and cacogenic traits in a population, are not the result of admixture of races, superior and inferior, but of miscegenation Where there is little or no legal sanction for mating between members of two races, the inferior elements of both come together, mate and reproduce mostly outside wedlock so that it is merely heredity reproducing itself, and not a result that would prejudice race admixture

Every country today possesses large numbers of endogamous groups, who may be described as 'social isolates' A person marries normally more often within his social level than without Whether the castes of India have a racial basis or not, the endogamy practised by the castes has certainly channelled blood along restricted lines, small sections of castes also behave as endogamous groups, and among them the opportunity for a recessive defect to show up is much greater than when the groups are widely based Biologists believe that the break up of 'social isolates' leads to an increased incidence of heterozygotes i.e., of dominant types in the resulting population The increase of stature in some of the

where they settle down permanently in a new domicile, but cultural differences often have militated against race mixture and even different sections of the same race at different levels of culture have maintained their endogamy and social isolation. Ignorance of each other's cultures have proved an effective barrier to the fusion of races, while regional peculiarities have determined the extent of admixture. Occupational differences have produced endogamy, while a reorganisation of the economic structure of the society has pulled divergent elements together to produce new and powerful groups.

While races have mixed and blended there are pockets in which certain racial types have been more or less fixed and stabilised. Various factors have tended to perpetuate such isolation and group consciousness arising out of it. Some races are backward in their economic, educational and scientific achievements, others have moved forward with astonishing quickness. Such differences have provided food for thought and have been traced by some to differences in innate ability but when we discuss the causes of such backwardness, we find that such inferiority is the resultant of a crop of factors and not merely of innate abilities. Isolation is a great barrier to progress. The opening up of the country by a vast network of communications changes in the economic environment resulting from it contacts with other people and the need for reciprocity in social life arising out of them have brought tremendous changes among 'social isolates' and the social history of most of the parts of our country, when we re read it, will provide valuable data for evaluating the competence or otherwise of social groups for progress and survival.

No one would seriously deny the rôle of favourable circumstances: genial climate, good geographical location and similar factors, encouraging as they do trade and traffic, in the shaping of cultural progress. Where climate is not favourable, even an abundance of energy and ambition in the people has not secured rapid cultural progress. How far tropical conditions are responsible for arresting cultural progress is difficult to assess but *no one probably would deny the physiological effect that results from damp air and increased pressure, viz. nervous depression, increased elimination of carbon dioxide, slower circulation of blood and quiet sleep, not to speak of the effect of savage attacks of animal parasites.* The only point in which the tropical countries win is that indolence, ignorance and depression have not stifled the desire



that the antagonism derives its inspiration from a kind of group consciousness which may result from different causes (1) Race conflicts arise between groups which differ from each other by some obvious physical traits (2) Linguistic differences develop cultural groups which behave as distinct races and carry their prejudices far enough to put the groups into hostile camps. (3) Religious differences overshadow social relations and conflicts undermine social security and cultural progress (4) While contiguity of residence brings different racial groups into social relationships economic rivalry between closely related groups produces unhealthy competition leading to armed conflicts (5) Race friction may result from a lack of knowledge of racial status of the immigrant stock but if the immigrant people have no memory of race status and no traditions in protest of the existing law of the native land viz dissenters and those who want to change to other mores are likely to be free from race prejudices and easily settle down in their new domicile without conflict

The Japanese of the Puget Sound region we are told by J A Rade-Maker (*Race and Culture Contacts* p 184 190) found that they were different from the White population in racial features in customs and etiquette in language in family standards in food habits and in cultural values The latter were used to Chinese labour and the competition with the Japanese labour brought all the differences to a head and conflicts became inevitable In course of time the Japanese children born in Puget Sound began to grow up with the White children the initial shyness disappeared they began to speak the language spoken by the White children and by association with the latter for 12 years or more largely in schools and also outside a sort of understanding of each other's cultures was achieved A common language and participation in common social and cultural relationship have removed the initial reticence and stiffness producing a real comradeship between opposing groups Wherever racial characters have been found associated with economic and cultural competition the whole has formed a mosaic and has prevented fusion of cultures and understanding between groups

Rare relations in Hawaii have been studied in great detail by anthropologists It is amazing how race conflict has disappeared in this part of the world A visitor today finds no evidence of race prejudice A Negro is treated with the same courtesy as an American, both are addressed in the same way by the prefix

'Mister' and inter-marriage between men and women of different racial stocks takes place without the slightest shrug of shoulders or any scuffle. A Negro marries a White woman, and a White man a coloured woman without exciting any protest from the respective societies. Anybody, particularly a newcomer who does not like this kind of egalitarianism, is pooh-poohed as a *malahine* i.e. a stranger, a few months or a year may convert him into a *Kamman* or 'old-timer' and he learns to behave. Physical differences, differences in racial traits, in inborn and latent capacities, and mental inequalities do not very much matter. The social codes or mores of social relationship determine race relationship and no amount of race distance is socially significant in Hawaii.

The racial differences existing in India in different parts of the country, between the tall, long headed and fair-skinned inhabitants of Northern India, the medium-statured, broad-headed and olive-complexioned people of Central India from Gujarat to Bengal, the long-headed, brown complexioned Mediterraneans speaking the Dravidian languages and the proto-Australoids of Interior India and the Mongoloid elements in Assam, Burma, and the Himalayas both *cis* and *trans*-Himalayan, have all fitted into a pattern of life and living, and no race conflict, after the initial fight between the indigenous and invading races had brought the races into closer relationships, social and sexual, has stirred the peace of the country for millenniums. An economy based on co-operation between the various racial and cultural groups, tribes and castes, has been evolved which for centuries provided a strong bulwark against misunderstanding and conflict.

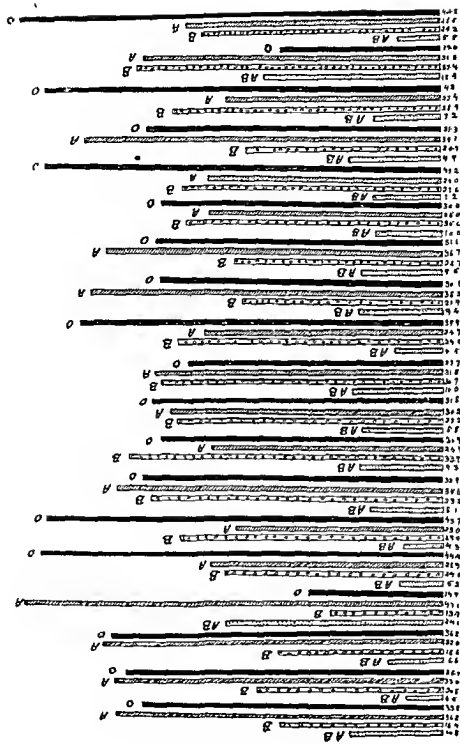
The social hierarchy in India which is partly based on race, and partly on culture, has answered the claims of ambitious groups and has assimilated diverse racial groups into a social pattern in which work and worship have promoted a healthy rivalry between competing groups of 'Varnas'. So long as status determined economic relationships, economic autarchy protected individuals from starvation, and social mobility allowed ambitious groups to readjust themselves to the social hierarchy, the scope for conflict was limited. The continuity of culture from the primitive and aboriginal tribes right up to the highest caste viz., the Brahmins, has softened differences and stifled antagonism and every social group in India shares in some form or other the cultural heritage of India. The *Ramayana* and the *Mahabharata* are sung from fields to forests and the myths and legends, anecdotes concerning

mythical heroes and great men have filtered into the daily life of the average man. The status and influence enjoyed by the aboriginal population in ancient India who met on equal terms with the ruling elements and were represented in the Indo-Aryan polity, did not provide any scope for misunderstanding or conflict. The friendship of ruling chieftains of the tribal pockets which were scattered in the hills and fastnesses was secured by the invading races by drawing them into social relationship with the latter. On the other hand, most of the alliances with tribal chiefs were based on inter-marriage in which reciprocity played no inconsiderable part. In medieval times and even later on, the mutual goodwill between the Hindus and Muslims was translated into practice by the two people identifying themselves with each others life and happiness, and the understanding between the two communities who lived side by side provided no cause for antagonism, on the other hand, they developed a unique tolerance to each other and even today the countryside is full of amity and friendship, whatever the complexion of the political life of the country today may be. India, with her vast population, 'Babel' of tongues, levels of culture, inequalities of wealth and racial differences, has not produced any race conflict of the kind found elsewhere and the little unrest, misunderstanding and signs of hostility that we find today have been fostered and fomented by partisan elements and must disappear with changing times, and the realisation of the fundamental and abiding interests of the country as a whole.

The roots of race conflict are many and the tentacles with which it flourishes are infinite. Ignorance is the main stem that provides the sap for conflict and an infinite passion for fission engulfs countries and nations. What is known of the biology of man or of the laws of heredity is little or nothing. What is wrongly interpreted as the effects of heredity is the *magnus corpus* which the people find difficult to shake off. What is said by partisan scientists is very often tacitly accepted and when truth is told, social forces, religious bias and preconceptions stifle it before it can establish itself. To take an example, Buffon in his early life was a believer in evolution, but he latterly advocated a rapid variation of species, and postulated a common origin for the horse and the ass, for man and ape as well. He believed that the structure of plants and animals are modified by environment and the modifications are preserved through heredity. But Buffon was so much afraid of public opinion that in 1751, he was constrained to recant his scientific heresies in the following sentence: 'I declare that I had no

intention to contradict the text of scripture, that I believe most firmly all therein related about the creation, both as to order of time and matter of fact' The fate of the 'mongrel' has been sealed by pseudo scientific dogmas long before the 'mongrel' could raise its voice to prove its bonafides 'Nature prevents the development of the mongrel' said Schultz 'Nature stamps out the mongrel by degrading it and finally eliminating it' The hybrid is usually an outcaste The social system of India viz, caste, bans inter-caste marriage Even if *anuloma* marriage is recognised, *pratiloma* marriage is tabooed 'Hybridisation' leads to disharmony in body proportions That is probably why the children of a Kshatriya father and a Brahmin mother, are 'Ugras' or ferocious, those of Sudra by Brahmin mother are 'Chandalas', the lowest status imaginable in the Hindu social system The Nordics are dolichocephals Only those with a cephalic index of 76 and below have great wishes say the racists, 'and incessantly they work to satisfy them' They are the Aryan branch of the white race No racial group whether long headed or broad headed can be found who do not have a cross section of its people with a cephalic index of 76 and below All the pre-Dravidian or proto Australoid people have a cephalic index less than 76 yet it is the Aryan branch of the white race that has won and can win in the struggle of race with race and 'survive as the physically and mentally superior race' The average intelligence of one race is the same as that of another, the idiots in one compare favourably with idiots of the other, while there may be a difference in the incidence of the gifted elements that constitute the vanguard of cultural progress How far environment is responsible for rearing gifted people has not been properly evaluated, besides, so long as the present social order is maintained more and more of the gifted elements are likely to be thrown into the common pool where mediocrity reigns supreme It is, therefore, necessary to dispel ignorance and develop a scientific attitude in the minds of common men and women towards problems of human biology, of race and racial relationship The common man must be made to understand the difference between 'science' and the 'scientist' Whatever the latter says must not be regarded as science unless it can be tested and verified Many of our troubles are due to the lack of discrimination on the part of the public, for, whatever they read in print they very often accept without question or reserve Knowledge dispels ignorance, and scientific truths must be disseminated if we want to free the popular mind from prejudices

Though ignorance is the most potent cause for race conflict, superstitions, fear, suspicion and economic rivalry, and desire for political domination have contributed, in no uncertain way, to create mutual distrust and ill will between races. A better understanding of one another's culture, of the points of view that differ from us, of the many angles from which different races view life and comforts, is obligatory for any nation which wants to encourage peace and happiness within its borders, and goodwill among others. Most of our preconceived ideas and prejudices have 'disintegrated and disappeared by closer contacts, and even enemies' have become friends and contributed to mutual happiness by closer social and personal relationships. If neighbours know and understand each other, the scope for conflict must necessarily narrow down. While injustice, social and political, has aggravated group antagonisms, discrimination and disabilities imposed on one race by another have stifled the desire for friendship and amity among the so-called inferior races, a broader outlook, a greater regard for other peoples' sentiment and ideologies, have brought warring racial groups into closer co-operation and have bred goodwill and trust. The problem of race and racial conflict is not different from that of the family or of the clan as both require knowledge and understanding to effect an adjustment of personalities and of groups, without which no healthy relations can subsist within the family or between races. The more we know of others, and the more others know of us however different we may be in race and culture, the greater the goodwill and respect we breed, and without them even freedom will become a mockery.

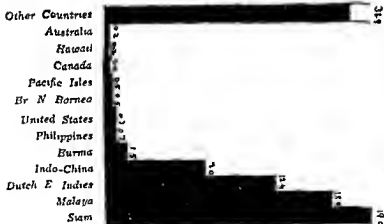


- Abyssian (Winkel)
- Ainu (Grove+Ninomyi)
- Anames (Hirschfelds)
- Chinese, Hunn (Li-chu-Pan)
- Chinese-Sumatra (Bais+Verhoef)
- Chinese-Peking (Liu-Wang)
- Japanese (all authors)
- Japanese Inside+outside (all authors)
- Javanese (Bais+Verhoef)
- Koreans (all authors)
- Malaysians (Lehmann)
- Manchu (Kirihara+Haku)
- Russians-Asiatic (all authors)
- Sumatrans (Bais+Verhoef)
- Syrians (Parr)
- Tibetans (Gates)
- Turks (Hirschfelds)
- Arabs-Syria (Altounyan)
- Arabs-Syria, Belz (Parr)

China (approx 10 millions) 19 0



(Scale 1" rep 5%)  
India (approx 42 millions)

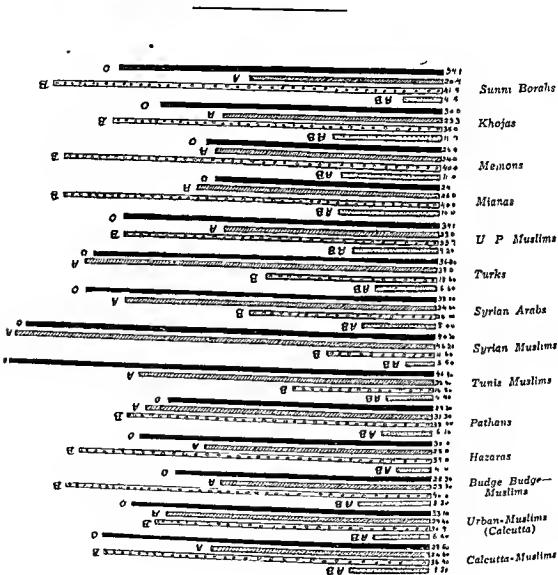
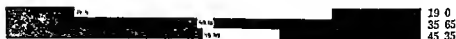


# Percentage Distribution of Cephalic Indices among the Chinese.

Living

Skulls

Dolicho  
Meso  
Brachy





ASIAN RELATIONS  
CONFERENCE

*March—April 1947*

INTER ASIAN MIGRATION

by  
S P Nag

GROUP B MIGRATION AND RACIAL PROBLEMS  
TOPIC III: MIGRATION

INDIAN COUNCIL OF WORLD AFFAIRS  
NEW DELHI

S. P. NAG is an M.A. of the Dacca University and has made a special study of population and migration problems.

## INTER-ASIAN MIGRATION

The problem of emigration is as old as mankind itself and is of absorbing interest. In one form or another this problem has presented itself at every stage of the growth of mankind and has influenced the pattern of civilisation not to an unimportant degree. Not a few of the advanced countries owe their present stature to some extent to the activities of the immigrants as well as the emigrants, who in some cases had been the builders of empires even. A scientific approach to this problem will, no doubt, go a long way to cure the world, plagued with multifarious conflicts as it is, much of its present day ills.

With the conclusion of the global armageddon which has, fortunately, brought the Asian countries to feel a community of interest among themselves, it is quite in the fitness of things that we should make an intelligent approach to the problem of Inter Asian Emigration, a correct understanding of which is so vitally important for the maintenance of good neighbourly feelings and promotion of mutual peace and prosperity among the Asian countries and will ultimately help Asia to discover her own destiny to contribute her due share towards the unity and brotherhood of mankind. We should do well to remember that Asia rich with her ancient wisdom and hoary culture, has, in times of crisis, played a historic role right from the dim distance past. To day the Asian countries are, as if, pulsating with a new wave of optimism and aglow with the vision of a new scheme of things in which everybody, irrespective of caste, colour, creed, race or wealth, will find equal opportunities to develop the best in himself. Viewed from this angle of vision, the importance of a happy solution of this problem of emigration cannot be too strongly emphasised. The recent development in South Africa is surely an unmistakable pointer as to how an ill judged handling of this delicate issue can lead to a crisis of the first magnitude. If we can correctly understand the facts in this matter, it may be possible to suggest ways and means which will dispel the causes of complaint and bad feeling and will have salubrious effects on the relations between the countries in Asia.

A good deal of controversy has raged round the issue as to whether an individual has the right to emigrate. Provided that a man is not a fugitive from justice or does not intend to escape a just obligation, it appears, from the humanitarian standpoint at least that the state should not stand in the way of an individual, seeking his fortune elsewhere. But the modern states are stretching forth their all embracing arms to control the movement of their people in harmony with their own interests. With the general acceptance of the theory of territorial sovereignty and the growth of the idea of the authoritarian state 'it is an accepted maxim of international law that every sovereign nation has the power as inherent in its sovereignty and essential to self preservation,

to forbid the entrance of foreigners within its dominions or to admit them only in such cases and upon such conditions as it may seem fit to prescribe' The freedom of emigration and intercourse was, no doubt, one of the imprescriptible rights of man recognised by Martens in 1883 But no country, at present, recognises that a man has got any inherent right of the sort. Now a days whatever rights are recognised in this connection emanate from treaty obligation, and mutual agreements entered into between the parties concerned The modern attitude is towards greater and greater control and in some cases even prohibition of immigration

So state control of immigration being the order of the day, we should proceed to examine the migration laws prevalent in different Asian countries with a view to finding out their draw backs and shortcomings and suggest changes to eliminate the possible causes of conflict between the Asian countries

Most of the immigrant countries in Asia being under the political subjugation of western powers, the immigration policies of these countries have been formulated to suit the imperialistic interests Discriminatory laws and restrictions have been created to suit the requirements of the ruling powers As a result, we find that in the application of the immigration laws, a distinction is usually made between European aliens and oriental aliens, a decidedly better treatment being accorded to European aliens Curiously enough in the Netherlands East Indies, Japanese have been also classed as Europeans In Indo China, the entry of oriental aliens is regulated by a very elaborate set of regulations, whereas Europeans are admitted with comparative ease

The problem of the migration does not affect all the Asian countries in the same way Some of the countries have no immigration laws at all The problem is assuming increasing importance in the South-East Asian countries as recipients of immigrants and in India, China and Japan as chief emigrant countries 'There has been more or less an unbroken and unvarying penetration of the Chinese and Indians into these relatively unoccupied lands, where while the natives set up their villages in the fringes of primeval forests, the immigrants fell trees, lay out plantation open up mines and found towns'<sup>1</sup> The urgency and intensity of the problem in this region can very aptly be illustrated by quoting the same author 'In spite of the barriers to migration and handicaps of various kinds in the new lands, immediately before the present war, an annual immigration of about 200 000 Indians, 150 000 Chinese and 50,000 Japanese took place The major safety valves of population pressure in South-East Asia are Burma (in 1937) receiving 244,000 emigrants, Malay 405,000, Indo-China 71 000, Siam 44 000, Netherlands East Indies 14 000 and Ceylon 150 000'<sup>2</sup>

<sup>1</sup>R K Mukherjee *The Population Problem of the South-East Asia*

<sup>2</sup>Ridha Kamal Mukherjee *Population Problem of the South East Asia*, Page 26

Burma and Ceylon obtain almost all their labour force from India. Malaya obtains it from South India, Java and Southern China, East Sumatra depends upon Java and Southern China. Borneo depends upon China, Java and India. Such regions have all profited from Indian and Chinese farming and vegetable gardening, small trade and handicrafts, apart from work in the mines and plantations. The Philippine islands owe their successful agriculture largely to the Japanese and the Chinese. A persistent flow of immigrants of the Chinese, Japanese and Koreans is also noticed in Soviet Asia and Mongolia. The number of Chinese in the Soviet Union is estimated by a well known authority in the neighbourhood of 200,000. The Koreans, who have mostly settled on the land and taken to rice cultivation, come next.

Burma, Ceylon, Siam, Indo China, Netherlands East Indies, Philippines, etc. now contain roughly more than 13½ million Chinese (and half Chinese) and 3 million Indians, in all about 17 million oriental immigrants. Approximately 40 million Chinese, Japanese and Koreans have found their homes in the cold temperate regions in the North. Perhaps the apprehension of a possible Japanese aggression prompted the Soviet Government to accelerate the migration of Russian Colonists into Asian Russia through tax-exemptions which extend for collective farms from 3 to 15 years and for individual farmers for 5 years. The success of this drive is amply proved by the fact that by 1932 700,000 persons excluding free or unregistered colonists (for which statistics are not available) built their homes in this region.

From the foregoing it is apparent that Asian migration is practically confined to the South East Asia and the Far East. Necessarily our discussion will be mostly devoted to the study of the problem as it has arisen in these countries. Of these countries India and China account for most of the emigrants. Japan is also essentially an emigrant country. The erstwhile fascist regime pursued a strong aggressive policy to find homes for her surplus population. In Manchuria Chinese colonisation and settlement on the land was to all intents and purposes, banned by the Japanese. It remains to be seen how vanquished Japan under the Occupation Forces will tackle this problem. So the problem turns out, in the main, to be as to how the interests of the immigrant countries can be reconciled with those of the emigrant countries, so as to provide minimum scope for conflict.

We shall now proceed to examine the immigration laws, as they are, in the different countries and the sort of treatment meted out to the immigrants. The status of immigrants may be studied with particular reference to disabilities and or restrictions in regard to (1) political rights, (2) property rights (such as land-holding, shares in companies and any other property), (3) right to employment and occupation and (4) miscellaneous rights.

*China* · China follows an open-door policy and has no immigration laws, but has a set of laws and regulations governing the status of aliens

The status of immigrants in China, so long, differed from that in other countries in one essential respect, namely extraterritoriality by which is meant the special privilege of exemption from the operation of the territorial law and tribunal. The foreign nationals enjoying the privilege were immune from the operation of territorial laws of China within the boundaries of certain well-defined territories, namely, treaty ports and open ports. With the exception of a few powers such as Great Britain, USA, etc., which had special courts established in China, the consuls of the powers concerned were authorised to exercise extraterritorial jurisdictions in court, known as Consular Courts. In the treaty ports and their immediate vicinity, these aliens were allowed to enjoy the right of residence, trade, industry, manufacture and pursuit of any lawful avocation, and for these purposes they could rent or buy houses, lease land and construct buildings, warehouses, churches, hospitals and cemeteries. Needless to say, these privileges were denied to aliens of these countries who had no right of extraterritoriality in China. It is obvious enough that the enjoyment of such rights by aliens limits or impairs the power of the territorial sovereign to a considerable extent and as such is derogatory to the dignity of any sovereign power. So the Chinese, justly, resented this position. With the recent surrender of these rights by the European powers, a very invidious distinction between aliens of different countries has been abolished.

Under the municipal law of China, aliens may acquire the nationality of the Republic of China, if they satisfy certain specific conditions. The wives of Chinese, unless they retain their original nationality according to the laws of their own state or persons who are recognised by one of their parents who is a Chinese or the adopted sons or daughters of the Chinese or those who happen to be naturalised persons, can acquire the nationality of the Republic of China. Aliens may be naturalised on fulfilling certain conditions. Certain military, diplomatic and specially mentioned public offices are not open to aliens, their wives and children even though they may acquire Chinese nationality. But these restrictions may be relaxed in respect of aliens who have been naturalised in recognition of eminent service after 5 years from the date of naturalisation and of aliens, otherwise naturalised, after 10 years from the date of naturalisation by an executive act of the national government upon the request of the Ministry of Interior.

Within the limitations prescribed by Chinese law and regulations aliens are treated on a footing of equality with the Chinese so far as civil rights are concerned. Civil and criminal cases involving aliens are required to be brought to the special attention of the Ministry of Justice. Foreigners can take to the medical profession in the same manner as Chinese, provided they are in possession of proper certificates from their own governments witnessed by the Chinese

Ministry of Foreign Affairs. Legal profession is also permitted in a limited area. Foreign technical experts in China must be registered in the Ministry of Industry in accordance with the relevant ordinances.

Certain professions are nevertheless closed to aliens. They are denied the privilege of being chartered accountants, brokers, members of stock exchange, pilots, navigation officers or delegates of chambers of commerce. Right of fishing in Chinese waters is also beyond their reach.

Foreigners may not buy or lease agricultural land, forest land, pasture land, salt land, mining land or any area of strategic importance. Mining right is, to all intents and purposes, denied to foreigners. They are permitted to own shares in corporations with limited liability organised by the Chinese National Government provided the majority of the total shares are owned by the Chinese, the majority of the board of directors are Chinese and the chief director, manager and other officers are also Chinese.

*Japan* In discussing the immigration policy of Japan we are particularly handicapped by the fact that we do not know to what extent the policy of the Japanese regime has been modified by the administration of the Occupation Forces. So for our purpose we shall confine ourselves to the study of the laws and regulations as they existed before the fall of Japan.

To enter Japan, an alien must be in possession of a passport or a certificate of nationality, in regard to which a policy of reciprocity is adopted, i.e., in the case of subjects or citizens of a state where the Japanese are exempted from the formalities of visa, provisions relating to the visa are not applied. Paupers, persons suffering from certain specified diseases or mental derangement or suspected of acting for the benefit of an enemy country or whose presence is prejudicial to public morals are not permitted to enter Japan.

Aliens, generally, are treated in the same manner as the nationals in regard to commerce and industry. But as regards business enterprises which require a permission or authorisation by the state, the aliens are not treated equally with the nationals. Banking, insurance companies, etc., fall under this category. Manufacture of gunpowder, and explosives, mining and fishing in the sea along the coast or within the maritime belt are not open to the aliens. Legal profession is closed to foreigners. Although aliens are usually refused permissions to become physicians, pharmacists, midwives, etc., there is a provision in the Japanese medical law that graduates of medical colleges in foreign countries or those furnished with physicians' licences, fulfilling the prescribed legal requirements may be granted permission to practise in Japan. The subjects or citizens of foreign countries in which Japanese physicians are given physicians' licences without examinations, may likewise be granted licences in Japan, provided they are recognised as properly qualified by the Minister of Home Affairs.

Aliens are permitted to enjoy the civil rights on a footing of equality with the natives. Japanese law courts are open to the public for natives and aliens alike. But political rights are denied to the foreigners. They cannot hold any public office, civil or military. Japanese nationality can be acquired by marrying the female head of a Japanese family. To prevent the abuse of this method, such marriage requires the prior permission of the Ministry of Foreign Affairs and the foreigner concerned must be a man of good moral character and have residence or domicile in Japan for more than 1 year. Aliens by being adopted in Japanese families may acquire the nationality of Japan. In this case also the permission of the Ministry of Foreign Affairs is required. When illegitimate children, who are foreigners are legitimised by their Japanese father or mother, they acquire Japanese nationality. On fulfilling certain specific conditions aliens can be naturalised and thus they can acquire Japanese nationality. But naturalised subjects are debarred from holding certain public offices.

*Siam* Until recently Siam followed an 'open door' policy by allowing foreign capitalist and labour a free hand in the exploration of its mineral resources and marketing of its agricultural products. The Chinese took full advantage of this and came to monopolise saw milling and rice milling. Teak forests were being exploited by the foreign concessionaire companies and tin mines were largely owned by the British and Australians. 'The average small Thai town has two Indian cloth shops, a Japanese photographer who is also a dentist, 2 to 3 dozen Chinese shops, 4 Chinese tea shops, 2 restaurants with hotel rooms above, a Chinese dentist, a Chinese harp shop and a Chinese dispenser of western medicine'.<sup>1</sup> Chinese carpenters, weavers, blacksmiths, goldsmiths, shoemakers, barbers, watchmakers and pottery makers have found ready market in Siam. A small number of these immigrants have been doctors, dentists and school teachers. The large mass of these have taken to commerce and are both retailers and wholesalers. Nearly 90% of all commerce and trade is in Chinese hands. Until recently Japanese labour and capital were noticed to be increasing in Siam. This is due to the fact that the Siam Government to counteract the European and Chinese monopoly was showing some favour to Japan and met with some success too.

With the establishment of the constitutional regime in Siam in 1932 which marked the triumph of the Siamese nationalism in the political sphere, a determined attempt has been made to shake off foreign control of industries. Chinese immigrants being overwhelming in number, the whole brunt of economic onslaught in the form of a series of discriminatory laws is, in the main, being borne by the Chinese. Anti-Chinese feeling is permeating the whole atmosphere. A number of overtures on the part of the Chinese Government to come to an understanding bore no fruit. As the relations between the two countries have become very much embittered over this issue, a somewhat detailed discussion of the issues involved is necessary to understand the facts clearly.

<sup>1</sup>K. P. Landon, *The Chinese in Siam*, P. 142



Speaking of the Chinese immigrants in Siam Reginald Le May remarked in 1930 'Twenty years ago, you could, figuratively speaking, count the number of Chinese Women you saw in Bangkok on the fingers of your two hands To day it is a very different story It means that all or most of the Chinese in Siam will remain Chinese in thought and spirit Their children will be taught in Chinese schools which are springing up all over the country, their wives will talk to them in Chinese, they will care less and less to learn Siamese themselves Thus in course of time the Chinese in Siam of whom there must be at least a million will assuredly become just as much foreigners as any European race in this country those million foreigners will have practically the entire trade of the country in the hands'<sup>1</sup>

The above to a large extent explains the deepseated antagonism between the two countries, which has found expression not only in Siamese discriminatory legislation but also in a series of riots The Chinese have always regarded the Siamese among whom they came to live as 'barbarians', and the Siamese contemptuously dismissed the Chinese as 'uncouth'<sup>2</sup> Of course with the upsurge of nationalism, Siam was flooded with a wave of anti foreignism This is best illustrated by the following story A Siamese lady entertaining a British guest at a dinner table was told that she was expected to entertain the guest in his own language She retorted 'When I went to England, I had to learn the English language And if he wants to talk to me he can learn Siamese' So the anti foreign attitude is not particularly directed against the Chinese, but as the Chinese are the largest in number, they have been hard hit

The Chinese without Siamese citizenship (by birth or naturalisation, cannot enjoy full civil rights They cannot vote or hold a civil office other than that of a clerk or an interpreter

These conditions have to be satisfied by the aliens for the acquisition of Siamese citizenship (1) Citizenship will be granted to aliens who have been in the Siamese Government or military service (2) Applicants with agricultural occupation and owning real estate will be given preference Such real estate must consist of not less than one square *rai* in urban areas and not less than twenty square *rai* in rural areas In the latter case, the land must be used for agricultural purposes (3) Applicants over 30 years of age must be able to speak the Siamese language, but need not be able to read it, those under thirty must be able to speak and read this language and those over fifty fall under a special category of old age applicants Because of the imposition of these restrictions, few Chinese, in proportion to their number, apply for naturalisation So in the absence of any diplomatic protection offered by the Government of China and sometimes because the Chinese are unwilling and often unable to become

<sup>1</sup>Reginald Le May *Siamese Tales Old and New*, Page 165

<sup>2</sup>H. P. Landon *The Chinese in Siam* Page 20

Siamese citizens, they are in a defenceless position so far as law is concerned, although legally all the immigrants are equally affected by these laws. Increasing restrictions are being placed on the acquisition of citizenship. All aliens have to pay a yearly registration fee not exceeding 10 *baht* in addition to the original immigration and certificate of residence fee. Certain customary professions have now been closed to aliens. By means of various laws indirect hindrances are being placed in the way of the education of immigrants' children, specially the Chinese. As a result of this, many Chinese schools had to be closed down. By requiring signboards of specified trade to be written in a particular language, indirect pressure has been put on the Chinese to oust them from those trades. That the discriminatory acts of the Siamese Government are particularly aimed at the Chinese is further illustrated from the following instances. When the Shipping Act which affected the Europeans was promulgated, it did not come into force within 180 days, thus giving the Europeans sufficient time to wind up their businesses. But when Salt Act was passed, it became effective immediately rendering the Chinese in the salt industries destitute. Similarly, the Chinese food vendors and the Chinese in other industries were deprived of their means of livelihood. Thus by and by the Siamese Government have been driving out the Chinese from various branches of commerce and trade by means of discriminatory legislation.

Persons without proper passports or certificates of nationality issued by a recognised government, persons suffering from certain specified diseases, persons not vaccinated against small pox or refusing to be vaccinated as provided by law, persons without independent income or support or those who are certified by a medical inspector to have physical or mental defects or diseases, rendering him incapable of earning a living, are prohibited from entering Siam. The amount of money an alien must have when entering Siam may be fixed by an order of the Minister of Interior, but children under 15 years of age may be exempted from this provision. The number of aliens of any nationality or of any category to be admitted annually may be fixed by law. Thus to take any extreme case, Chinese men may be admitted to the exclusion of their womenfolk. An alien, without passport or certificate of nationality, may, if he wants, be issued with identification papers on payment of 10 Ticals, if he is not found undesirable. This identification paper which is valid for two years may be used in lieu of a passport or a certificate of nationality. The fee for the certificate of nationality was raised to 30 *baht* in 1932 to discourage the immigration of Chinese peasants and labourers who are mostly poor. If these passports were found unsatisfactory, the intending immigrants had to pay another 10 *baht* to secure identification papers. An alien, who had made his home in Siam and wished to cross the border for any reason had to pay a fee of 5 *baht* for a return permit. As these did not materially retard Chinese immigration this fee for a return permit was raised to 20 Ticals and the permit was valid only for a year from the date of issue. The fee for the issue of a

certificate of residence is 100 Ticals and does not need to be renewed. If the holder is absent from Siam for more than a year, the certificate becomes void. The young immigrants should be able to read and write. Individuals below 20 and unaccompanied by one of their parents, (if special permission has not been obtained) and individuals of 22 years or more who cannot read or write Siamese or his or her own language, are prohibited from entering Siam. Chinese peasants, especially women, who were illiterate could easily be declared unfit for admission by an examiner who set his standard too high. As the laws became too severe, unauthorised immigration showed an increase, to check which the aliens were subjected to a very elaborate set of formalities. All aliens had to secure registration certificate from officials to be always kept in possession. The fine for failure to produce this on demand was 200 baht immigration fee being 100 baht only. These laws were further amended in 1939 to subject the Chinese to still more detailed formalities and financial difficulties. The failure to comply with the law entailed a fine of 20 to 5000 bahts. They could also be imprisoned for a period not exceeding 6 months.

So we find that the problem is fraught with grave potentialities of far reaching consequences unless the parties concerned divested of all sentimental bias and approach the issue with courage and common sense.

*Indo-China* Like Siam the immigration policy of Indo China is also vitiated with too many discriminations, the Indians and the Chinese being the parties who suffer. European aliens are accorded a distinctly better treatment and have to observe less formalities, while entering the colony. Certain specified classes of French citizens have to observe no formalities at all. Other Europeans have to obtain a regular passport unless exempted by diplomatic agreement, with a copy of police record or an official certificate instead and a medical certificate for admission into the colony. They are also required to deposit a sum sufficient for repatriation. To reside in Indo-China, they must obtain a card of identification which is valid for 2 years and must be visaed at every change of address. This card may be renewed on payment of the usual fees. No foreigners can follow a profession without declaring it. Certain professions are prohibited by a decree, the terms of which are enforced by comparatively severe penalties, not excluding the right of deportation. The terms of this decree do not apply to 'orientals'.

'So far as orientals' are concerned, they are governed by a very elaborate and cumbersome set of regulations, which on account of variations in local circumstances are fixed by decrees of the Governor General to suit the requirements of each colony. The basic principle of immigration laws in Cochin China is grouping of oriental aliens, or aliens enjoying a similar status, into communities established in each province or municipality. At the head of each community of at least 100 members, or at the head of each group formed by the Union of 2 or more communities containing each less than 100 members, is placed a

community head and a sub head elected for 2 years by their countrymen and approved by the Governor-General. Oriental aliens having a licence or paying a land tax are voters in the provinces. At Saigon and Cholon, only those who are licensed in the superior class or belonging to the first five classes or who pay an equivalent land tax are eligible to be voters. (These classes denote administrative divisions among the immigrants peculiar to Indo-China). The head and sub head of the community are the authorised intermediaries between the Government and community they govern. They are responsible to the police for the group and must enter all their members on a special register noting all changes. Every oriental alien is forced to belong to a community under the penalty of deportation if he refuses, or if his community refuses to accept him. Communities are responsible for payment of taxes.

New immigrants if they disembark at Saigon are met on board ship by an immigration officer and community heads or if they arrive at any other point in Cochinchina they must report to the head of the Province immediately. If they want to remain in the colony for a short period, they get a temporary visiting permit valid for three months. If they carry a passport issued by a French consul, they may remain for 6 months in Cochinchina simply with a visa in this passport. If they are received by the relevant community, they are registered on the personal assessment roll and receive a registered certificate which they must always carry when moving about. In other colonies also the same elaborate formalities with local variations are to be observed by the oriental aliens. They are subject to too detailed regulations and multifarious taxes, while staying in Indo China.

Any person is a French subject or under French protection, according to the place of his birth not only if he is born of native parents, but also if he is the legitimate or natural child, born in the colony of parents of whom one is foreign and the other native or assimilated Asian or of parents of whom one is assimilated Asian and the other native.

From the small shopkeeper to the commission agent, the Chinese is to be met with in every stage of trade in Indo China. He acts as an intermediary between the European and the native. The Chinese control the sale of Cochinchina rice, fish, Cambodian skins and similar local products. In agricultural produce he is both a money lender and a trader. In transport also he has no rival. He controls many important trade routes. Rice mills are mostly owned by the Chinese. But of late, small French farms and Annamite factories are appearing in the scene. The Chinese have become victims of various political and economic discriminations.

To discourage Chinese settlement almost prohibitive taxes are imposed. For example, taxes are seven times as heavy for a Chinese coolie in Cochinchina as for an Annamite. Besides the Chinese or Indian coolie has to give a guarantee

when he disembarks, and pay a considerable sum when he is taken on as a labourer<sup>1</sup>. Unlike the mass migration towards China, what is directed towards Indo-China represents a restricted elite, observes Virginia Thompson. Both the guarantee and the heavy taxation prevent the poorest class from seeking entry. The existing ill-feelings, e.g., debtors' hatred of the creditor, the peasants' hatred of the corn dealer and the shopkeepers' hatred of the great business firm, have been so canalised as to fan the anti-Chinese sentiments and thereby to arrest Chinese capitalistic enterprise. The Chinese have been ousted from the plantation agriculture as a result of economic discriminations. By manipulating the system of concessions, the Chinese have been held aloof from raising new commercial crops such as rubber, cotton, coffee and tea, and from palm oil plantations. In the thirties, the French, with the aid of the local French banks, began to oust the Chinese. On the whole, the gross economic and political discriminations, with all their harshness, have hard hit the Chinese and the Indians also have not been left unscathed. The French administration in Indo-China dealt rather harshly with the Chettiar bankers from India who had advanced vast sums to the agriculturists. The policy of protection of the peasants in the years of agricultural depression, as determined by the credit office at Saigon, involved a drastic reduction of the principal and interest of the agricultural loans and a postponement of the realisation of dues, which caused hardship, spread distrust and alarm and led to a withdrawal of more than half of the Indian capital invested in Indo-China<sup>2</sup>.

These drastic restrictions imposed upon foreigners are fraught with potential conflicts of far-reaching political repercussions. With the eclipse of the privileged status of the colonial power, it may be possible for the Chinese with racial, cultural and economic affinities with the nations to come to a happy understanding to the benefit of all.

Needless to say, the attitude of alien labour and capital toward the Nationalist Movement of Indo-China will be the determining factor. The Chinese must live down the reputation as agents of foreign economic imperialism.

*Malaya* All aliens must purchase a certificate of admission, which is valid in all the Federated and unfederated Malaya States and Settlements for 2 years. These are renewable for a further period of two years. These are not issued to undesirable persons, e.g. persons suffering from certain diseases, persons with no means of livelihood, prostitutes, persons banished from other countries, promoters of sedition, etc. Labourers recruited from outside may be permitted to land at the discretion of the Colonial Secretary, if he is satisfied that such labourers are actually required and their admission would not be detrimental to public welfare.

<sup>1</sup>Dunnery *Asia's Teeming Millions*

<sup>2</sup>Mukherjee, *The Population Problem of South East Asia*

A certificate of residence valid for life may be obtained by an alien after 8 years' residence. But the Governor-General-in-Council has the discretion to cancel it. Ordinarily, no disabilities regarding property are imposed on aliens.

Necessary permission to carry on missionary work has to be obtained by aliens.

Any person actually residing in the colony may apply for the grant of the privilege of naturalisation. If the Governor-General after due enquiry grants the petition, the alien is required to take an oath of allegiance. This grant may be revoked under certain specified conditions. If a person, naturalised as a British subject in the colony, becomes voluntarily naturalised in any other foreign state, he loses his naturalisation in the colony.

Rights of aliens are fully protected through the courts in accordance with British law and procedure.

The Governor-General at his discretion can impose a limit on the number of aliens to be admitted into the states. As a matter of fact Malaya has, since 1930, laid down quotas of immigrants, restricting the movements of Chinese and South Indian labourers.

In comparison with Siam and Indo-China, British colonial administration in Malaya has not taken resort to any unfair deal to arrest the development of alien economic and commercial enterprise. With the exception of tin smelting, many of the small industries are in the hands of the Chinese. For several decades, tin mining has been largely in the hands of the Chinese, who have successfully exploited the mines by their own fantastic devices. The labour employed in the mines is practically confined to the Chinese. Chinese enterprise is generally confined to medium-sized establishments. Chinese enterprise is in fact instrumental in the development of rubber plantations and tin mines. Great leaders of Chinese trade have settled down in the harbours.

The interest of Indians is virtually confined to establishments over two acres and these are not considerable. These are mostly in the hands of the Chettiar community.

The condition of the Indian labourers in Malaya presents a gloomy picture. Ever since the Malaya States were taken under protection, it has been the policy of the Colonial Government to induce Indian labour to immigrate for various works. The poor, illiterate and unskilled labourers, having no knowledge of the conditions in Malaya, were made to emigrate under different agencies, such as the indentured system and the 'Kangany' system. According to an independent enquiry 'the vast majority of them have risen no higher than their miserable starting point and have lived out their brief Malayan lives within the radius of few miles from the dingy *coolie* lines in which they slept

These poor folk practically became the bondsmen of the recruiter. To put a stop to the vicious system of emigration under contract, in 1922 the Government of India passed the Emigration Act declaring all indentured emigration illegal. Assisted emigration to Malaya was permitted on the condition that the contract was valid only for a month, that the recruiter must belong to the village of the men whom he recruited, that strikes were not to be considered legal offences, and numerous facilities and guarantees were promised so as to enable frequent return to the country of origin. As a result of further intervention by the Government of India statutes were passed to ensure sanitation, improvement of health conditions, control of malaria, good water supply, better housing accommodation, maternity benefit, education of children and the like. But it should be remembered that statutes alone will not improve the lot of these unfortunate labourers, ill-equipped as they are to take to any other work than that of a *coolie*. It is high time that India took sufficient care to examine the fitness of the prospective emigrants to brave the adverse circumstances in the unknown land. Since 1938 all assisted emigration of workers for the purpose of unskilled work has been prohibited by the Government of India. Recently Indian labour struck work on the ground of low wages. Their point was that Chinese labour was getting double the wages paid to Indians. Since the depression in the rubber industry, the crux of the question is the fixation of the rates of wages.

At present as a result of an understanding between the Government of India and the Governments of the Malayan Union and Singapore Colony, some sort of control on a priority basis on the entry of Indians into Malaya, has been introduced. This control is only temporary in view of the prevailing shipping shortage and of the difficult economic and internal transport conditions in Malaya in the wake of the end of the war. The issue of entry permits is regulated by the Government of India on a system of priority agreed to by the Governments concerned according to which persons displaced from Malaya during the war receive generally a high priority.

Recently Indian interests have greatly suffered due to the repatriation of prominent Indians from Malaya for manifest political reasons. A free India will do well to take up the question of their rehabilitation and undo the injustice done to them.

*Indonesia*. To exploit the vast resources lying hidden in jungle and morass, Indonesia formerly followed a systematic policy of organised free immigration as far as contract labourers and free labourers in the big enterprises were concerned. Shortening of the contract period, gradual reduction of penal sanction and an increasingly liberal labour legislation contribute to maintain a steady flow of Chinese and Indian labourers towards the rubber and paper plantations and mines. The Dutch policy, unlike the Anglo-Saxon and

French administration which followed in the past a policy of exclusiveness in the dependencies and colonies making mobility of Asian population increasingly difficult, was much liberal. The Dutch policy in relation to trade, foreign investment and local industrial development in the colony is marked with a liberal character. Of course, the prevalent economic factors which demanded rapid industrialisation to avoid unemployment and extreme pauperism in the countryside, which was threatened with grave political discontent was largely responsible for this liberal attitude. Only with the aid of foreign capital and foreign markets was development of small scale industries made possible. Under liberal measures, Chinese enterprise has held its own. It has played a major part in the financing and management of the small factories for the processing of agricultural products. Rice mills and plants for the preparation of copra and coconut oil, have been worked by the Chinese. They have been, also, the financiers of the native enterprises, and middlemen to groups of native handicraftsmen. By controlling wholesale and retail distributing business, they have been instrumental in local industrial development.

According to the Netherlands law of 1910, all persons born of parents settled in the Indies are Netherlands subjects. The Chinese and other non-indigenous Asian residents of the Indies who were assimilated with the native population in respect of their legal status come under this law. But the Japanese have got the legal status of Europeans and are treated as such. Discrimination between the different ethnic groups of the Indies population has given rise to political disagreement. The Chinese, with a few exceptions in the vicinity of Batavia where they acquired land almost two centuries back, cannot own land in the colony. In 1933 the total number of immigrants for the purpose of residence was fixed at 12,000 yearly. This was equally shared among the fifteen groups of nationalities with a maximum of 800 per group. Before entry all immigrants have to satisfy the authorities of their capacity to earn a living. As a result of all this Chinese immigration has been materially reduced. The number of Japanese and Indian immigrants also have thus been restricted. Formerly the fee for immigration permit was 25 guilders. Now it has been raised to 150 guilders.

At present the permission to enter these territories is on principle granted only to civilians whose presence in this country is considered necessary or desirable in the interest of the economic reconstruction of Indonesia. By way of exception and only in so far as local conditions allow, this permission will be granted to individuals who have sufficiently strong reasons to come into these territories. This applies to Asians and Europeans alike. Anyone Indonesian subject as well as foreigner, whether or not in possession of valid or expired Indonesian immigration papers is to submit a visa application in the normal manner to the nearest Indonesian diplomatic or consular representative. In granting a visa, the applicant's previous residence and the interest he has left in



Indonesia are taken into account so far as the local conditions permit. A certain priority might, therefore, ensue from the nature and volume of these interests for consideration of which an important indication might be found in previously issued Indonesian immigration or citizenship papers. For those who have lost these documents in course of years, it is sufficient that in submitting their visa applications they should state in detail the papers they had in their possession and how they lost them.

*Philippines* In the Philippines, all persons, citizens and aliens alike, may be said to enjoy, in general the equal protection of law, but this is hedged with certain specific and well-known restrictions. Aliens are deprived of the right to vote or to be elected to any public office. They must not take any part direct or indirect in any election for any public office. Only the aliens who, under the laws of the United States, may become citizens of that country, if residing therein, may be naturalised, if otherwise qualified. On being found undesirable, they may be expelled. Licences in the Philippine trade are denied to them. Homesteads on public lands or lease or purchase of public agricultural lands are refused to foreigners. The ownership of shares by foreigners beyond a certain proportion disqualifies a corporation with respect to certain industries. The aliens cannot pursue legal professions nor can they be members of the Board of Medical Examiners.

The following conditions must be fulfilled to acquire naturalisation: continuous residence for five years, possession of real estate worth not less than 100 000 or pursuit of some trade or profession and ability to speak and write English, Spanish or some native dialect.

Since 1902, the USA have extended the Chinese exclusion measures to the Philippines Islands. Before the war, the Japanese large scale enterprise in the islands were threatened with expropriation. The Philippine laws have placed all immigration on a flat quota basis and prevented the Chinese and the Japanese from obtaining land for the development of plantations or agricultural purposes. Only citizens of the Philippines and the USA may obtain 24 hectares of public land as a homestead while corporations may acquire not more than 1,024 hectares, provided that at least 61 % of the capital belong to the nationals.

It is hoped that with newly acquired independence, the Philippines will lift the discriminatory laws particularly directed against the Asian countries. They can steer clear of the sources of inter-Asian conflicts if they approach the problem with understanding and good will, because with only 12.5 % of the total land inhabited and less than one half of the agricultural land under cultivation, it may not be difficult for them to be a bit accommodating to the benefit of themselves as well as the aliens.

*Ceylon* Ceylon obtains all its labour force from India and as such immigration policy of Ceylon is only concerned with India

Emigration from India to Ceylon is of ancient date and has almost throughout been unrestricted. This has been carried on by a special agency, called the *Kangani* system, *Kangani* or *Sirdar* being the pivot of the agency. The Ceylon Labour Commission in India co-ordinates and supervises the activities of the recruiters. The recruit generally receives advances from the *Kangani* before leaving India. This debt, an everlasting incubus transmitted from generation to generation, reduces the emigrant to the position of the *Kangani's* bondsmen.

In allowing renewal of emigration to Ceylon the Government of India have laid down that in future Indian labourers should start free from any debt and the old and probably irrecoverable loans should be written off.

The rules framed under the Emigration Act of 1922, which governs the emigration of Indians to Ceylon, prohibit the emigration of Indians to Ceylon for unskilled work on or after 1st September 1942. Individual exemptions are granted in cases of hardship. These exemptions have been specially designed to avoid separation of the family as a result of the ban.

To assist Indians in Ceylon visiting India the officers of the Representative and Agent of the Government of India issue to them appropriate credentials. These have to be endorsed by the Protector of Emigrants before disembarkation. Estate labourers have to travel with identification certificates issued by the Superintendent of estates.

The Ceylon Government maintains by arrangement with the Government of India a quarantine camp at Mandapam for passengers to Ceylon via Dhanushkodi. Passengers are not allowed to land in Ceylon unless they produce a health certificate from this camp. An invidious distinction is made between the upper and lower class passengers in the matter of issue of health permits by the Ceylon Government. This has been the subject matter of bitter criticism in India. It is urged that even third-class passengers who produce a certificate from a duly qualified medical practitioner that the passenger has been vaccinated or re-vaccinated within the three years immediately preceding should be accepted by the Ceylon Quarantine Medical Officer for the issue of necessary health permits.

Ceylon police may prohibit entry into Ceylon of immigrants other than estate labourers, if they are destitutes or vicious persons.

In 1941 an Indo Ceylonese Agreement was drafted in respect of the conditions of Indian emigration to Ceylon. A quota system has been introduced and the conditions of domicile defined. These do grave injustice to

---

<sup>1</sup>Radha Kamal Mukherjee *The Population Problem of South East Asia*

the reclamatory work undertaken by the Indian colonists for more than a hundred years. The majority of labourers have been denied franchise and educated Indians are deliberately removed from offices and establishments.

Every effort should be made by the authorities of both the countries which are on the threshold of freedom to come to an understanding with a magnanimous gesture, and having so much in common between them they should adjust their economic relations on the basis of neighbourliness.

*Burma* Like Ceylon, Burma has been for decades the outlet for the surplus population of India, there being no restrictions on free movement. With imported Indian labour intensive production of rice was developed in Lower Burma, and in important respects, retail trades were built up largely with capital from India and by Indian merchants. Indian workers helped to enrich the country with the proceeds of modern large-scale industry. The Chettians financed internal trade, especially the marketing of crops. With the onset of the depression, they were obliged to take land in settlement of their dues. In 1937, they were in occupation of 25 % of the area of the 13 principal rice-growing districts of Lower Burma. 32.5 % of all Indian earners and working dependents were occupied in the production of raw materials of whom 30% were engaged in the exploitation of animals and vegetation, 51.5% were employed in industry, transport and trades, 6.5% in the police, the army, public services and professions and 9.3% in the miscellaneous occupations, of whom 41% were domestic servants. Indians are also prominent in banking, insurance and exchange business.

Finding the Indians deeply entrenched in the economic life of the country, an anti-Indian attitude naturally developed and a series of disturbances broke out. As the Braund Committee noted in 1939, the riots of the previous year had as background current agitation against the Indian economic penetration. In view of the disquieting situation, several attempts were made to arrive at immigration agreement between the two countries. On the recommendations of the Baxter Committee an agreement was reached by the Governments of the two countries, which evoked intense criticism in India as a result of which it did not come into force. Another attempt was made later on to come to an agreement but that also did not materialise. Though there are no restrictions on the entry of Indians into Burma, owing to the limited shipping space available and the unsatisfactory economic conditions obtaining in that country at present passages from India to Burma have, as a temporary measure and with the approval of the two Governments concerned, been controlled so as to facilitate the return and re-establishment of the large number of persons who had evacuated that country on the outbreak of the war, in preference to other classes of persons who had not been obliged to leave Burma as a result of the war. Persons of the latter category who have landed property or business

to look after in Burma or have to go there as replacement of personnel of essential business firms or on compassionate grounds or for other special reasons are also given equal facilities with evacuees to get to that country. Needless to say, in the near future the question will be re-opened with a view to arriving at a satisfactory solution. Instead of clouding the issue with emotional outbursts, both the countries will do well to make a realistic approach. Indian labour in the past has not always been alternative to the Burmese labour, but has been supplementary. Burmans do not like to handle messy substances like coal. They do not show any inclination to compete for the heavier and arduous tasks. In reaping crops, Burmans due to their indolent habits prove to be costly. Work requiring long absence from home does not appeal to the Burmans who always insist on observing all ordinary Burmese holidays. So instead of drastically prohibiting the entry of immigrants, Burma will be wise to canalise the flow of Indian labour to her advantage. It may be assumed that the new India inspired by goodwill towards its neighbours in South-East Asia will take into account the nationalist sentiments of Burma.

**USSR** Union of Soviet Socialist Republics does not recognise, and owing to its nature cannot make, and discrimination based on race, religion colour, nationality or similar considerations. No distinction is made between the status of a foreign worker residing in Russia and the status of a worker who is a citizen in the USSR. There are no doubt certain administrative regulations regarding the entry, the settlement, protection of frontiers, etc. but these do not affect the basic principle of the October Revolution. Any direct or indirect restrictions of rights or establishment of direct or indirect privileges for citizens, depending on their race or nationality, as well as propaganda of race or national exclusiveness or hatred and contempt are punishable by law. With the elimination of private or state capitalism the problem of aliens peculiar to that regime has lost all its practical significance. Religious freedom is granted to foreigners. Foreign citizens, persecuted for championing the interests of workers or struggle for national emancipation are granted asylum by the USSR. With certain minor exceptions such as the right to act as the captain or engineer of a ship, or the right to be a member of the crew of civil aircraft, the Soviet law does not impose any special restrictions on the pursuit of any profession by a foreigner. All occupations including government service are open to them.

Permission to enter the territory of the Soviet Union is accorded by the embassies and consulates of the USSR abroad in the form of a visa to the passport.

A few discriminations against the Chinese are noticed in the Mongol People's Republic. The entry of Chinese immigrants into Outer Mongolia is prohibited.

*Persia* For admission into Persia, foreigners must be in possession of visas granted by Persian officials abroad and passports or identity papers or certificates issued by the foreign state to which an alien owes allegiance

Persons of the following categories cannot be granted visas

- (1) Those who are considered Persian subjects under the Persian law but desire to enter Persia under non-Persian nationality papers
- (2) Aliens whose presence in Persia is not desirable for reasons of public security or other interests of the country
- (3) Aliens convicted of misdemeanour or crime in Persia for any foreign country
- (4) Aliens who are unable to show that they can earn their livelihood in Persia either with their own capital or through useful professions

The police will furnish permits for permanent or temporary residence and these can be renewed and extended. Within 48 hours after arrival all foreigners must report to the police.

Fee for a transit permit or temporary residence permit and its renewal is equivalent of one gold Ryal. For permanent residence permit and its renewal, the equivalent of two gold Ryals is charged.

The Persian Government has absolutely forbidden by law the employment of foreigners in state service except on a declaration by the particular Government department employing a foreigner to the effect that no competent Iraqi was available for the post. Indians and foreigners in State service have already been replaced by Iraqis. The Government have now ordered their exclusion from commercial houses as well. The new companies and commercial houses in Iran are required to give an undertaking to employ only Iraqis wherever possible before any permission is granted to them to operate in Iraq.

*Iraq* No one is allowed to enter Iraq without obtaining the permission of the Director of Passports. This permission is automatically accorded to one who has a regular passport duly vised by an Iraqi consul or any other authorised Iraqi official and in possession of sufficient money or has means of livelihood in Iraq. The applicant must not be a lunatic or a prostitute and must have a health certificate. He must not also be a fugitive from justice or declared undesirable by the Minister of Interior.

A person entering Iraq without regular permission may be lawfully put on remand. Anybody permitted to enter Iraq must register certain details at the police station of the place in which he is residing within 15 days of his arrival. There are certain exceptions in the case of persons staying for three

months. The Minister of Interior may issue orders for the deportation of a foreigner if he is found to be without any means of living or if he is wanted by a foreign country or if any court recommends him for deportation. This order may affect the family of the person concerned. Whatever money or property such a person may have should be spent on his family's subsistence and journey and his own until they all leave Iraq.

Pilgrims or visitors travelling in organised parties need not have individual visas. Only the leader of the party should obtain a special permit. But the individual members are, nevertheless, subject to lawful taxes on their entrance.

Instructions may be issued exempting any person, or a certain class of persons from the provision of this law, wholly or partly, either in our absolute power or by restrictions and conditions which do not conflict with the existing law.

Heads of foreign political missions and diplomatic officers and the members of their household and officers and the members of the British and Indian forces are not affected by these regulations.

**Aden.** No Person without a valid passport or travel document can enter the colony. Persons of certain categories, such as, paupers persons suffering from certain loathsome diseases, criminals, prostitutes or persons considered undesirable on information received through official channels are classed as prohibited immigrants. If they are found in the colony, they may be repatriated to their own country or to any other country they prefer to go provided that country is willing to receive them. In addition to removal they are liable to imprisonment not exceeding six months. Of course such imprisonment shall cease if and when arrangements for his removal are complete.

No immigrants will be permitted to enter the colony unless he makes of deposit not exceeding Rs. 500 as is considered sufficient to cover the cost of repatriation with the immigration officer or any other appropriate authority. This does not apply to the members of the British forces or British merchant navy and others who are classed as exempted persons. A British-born subject *in the colony or wife or child of a person who is not a prohibited immigrant* also does not come under this provision. This deposit is refundable if within 12 months after entering the colony, he obtains a certificate from the immigration officer that he does not come under the prohibition of Immigration Ordinance. Employers in the colony intending to bring persons for employment under him, must make the prescribed deposit or give security by bond.

**Hongkong.** An immigration officer is appointed by the Governor to carry out the provisions of the Immigration Ordinance. His powers and duties etc., may be defined by the Governor in Council from time to time.

Any person who is a through passenger and without a valid passport or some other valid document or entry permit may be refused permission to land or to remain after landing in the colony beyond such period as the immigration officer may sanction. A passport or travel document to be valid must have an indication either in specific or general terms that it is valid for Hongkong, that it was issued or renewed to the holder by or on behalf of the government of which he is a subject. A photograph of the person also must be affixed to it. In the case of a person other than a British subject or British protected person it must contain a visa by a British consular officer or any other duly authorised official.

Unless he belongs to a country with which there is a reciprocal arrangement, the holder of a valid passport, travel document or entry permit with an endorsement defining a limited period of stay in the colony, shall have to pay a fee of \$ 5 for further extension. The immigration officer, unless authorised by the Governor in Council shall not issue entry permits, frontier passes or certificates of residence to anyone who is diseased or maimed or is an idiot, or a lunatic or without any means of subsistence or may be hindered by his state from earning a livelihood or cannot show that he has any definite employment awaiting him or has a reasonable prospect of getting one, or a prostitute or living on the earnings of a prostitute or has been deported, banished or expelled from any country.

Any immigrant found guilty of contravening the requirements of the migration ordinance by any act of failure, neglect or omission is punishable on summary conviction by a fine not exceeding one thousand dollars and imprisonment not exceeding twelve months and by expulsion from colony—on the order of the convicting magistrate. Any security furnished shall be liable to be forfeited.

*Afghanistan* All persons entering Afghanistan must be in possession of a passport, in the form authorised by their Governments. Persons, of unknown or doubtful nationality possessing a certificate of identity may be granted a visa on the passport or whatever document is in their possession. For example, certificate granted by a village headman of the country in which the applicant belongs is also acceptable.

Foreigners belonging to countries where there are no Afghan officials or where consular business has not been entrusted to representatives of a friendly State, may be granted visas by competent frontier officials on arrival at a frontier of Afghanistan. The Afghan Government may, in their discretion, fix certain frontier routes for the entry and exit of foreigners.

Entry visas are of three kinds (i) Short term visa which is valid for 15 days (ii) Limited term visa which may, at the discretion of Afghan officials,

be valid for any period not exceeding six months (vi) Long term visa which is valid for one year. The holder of this visa is not entitled to perform more than one journey but may remain in the country for a year from the date of entry. All these visas are renewable.

Following classes of people fall in the category of prohibited immigrants :—

- (i) Foreigner engaged in immoral occupations or whose presence is not consistent with public interests
- (ii) Foreigners who have undergone punishment in or under orders of deportation from Afghanistan or have been sentenced to punishment in a foreign country
- (iii) Foreigners without means of subsistence or sufficient money to defray their travelling expenses or unable to furnish a personal security in regard to residential expenses
- (iv) Persons of Afghan origin who have been deprived of their nationality by a decree of the Government of Afghanistan

A long term visa for Afghan territory will be granted to specified classes of people provided they have submitted their applications to the Ministry of the Interior. The Ministry may issue permits de séjour to the holders of long term visas in accordance with the regulations and conditions laid down for permanent residence.

Nomads, shepherds and herdsmen who are foreign subjects are dealt with in accordance with the separate agreements reached between the Government of Afghanistan and neighbouring power.

Exit visas are issued free. Entry visas for short term, limited term and long term are issued on payment of fees which differ in each case. Pilgrims, residents of frontier regions, mule and camel drivers and motor drivers, tonga drivers etc. are treated differently and the rates of fees are also different.

Religious fugitives and refugees if entering the Frontier regions of Afghanistan on reasonable grounds are excluded from the above provisions and may be treated as the Afghan officials may deem fit and proper.

No special restrictions or disabilities are imposed on foreigners in the pursuit of trade, commerce, etc., or any lawful avocation provided they are of good financial standing. Government service is also open to them.

Laws governing the acquirement of nationality in Afghanistan do not place any special restrictions on the foreigners, on the contrary these are liberal. It is easier for foreigners to acquire Afghan nationality. The Afghan Government may issue orders revoking the nationality of the following persons :—



- (a) Persons not co-operating in the common interest of Afghanistan and refusing to share their financial profits so Afghanistan
- (b) Persons residing in foreign countries and found to possess no patriotic feelings and intentionally avoiding Afghan legations and consulates
- (c) Persons who have fled from Afghanistan after committing a political offence, or committing any other serious offence or felony in or out of Afghanistan
- (d) Persons engaged in propaganda work against Afghanistan or employed by foreign powers in a civil or a military capacity

*India* India does not place any restriction on entry of foreigners. Anybody fulfilling the ordinary passport requirements can enter India and take to any lawful pursuits. As a result of this open door policy, we find India flooded with many foreign enterprises. Of course, the new India with vast potentialities for industrial development will see how far foreign interests can be allowed to work consistently with interests of the Indians.

India being an emigrant country, had to take interest in the control of emigration. We have already mentioned the miserable plight of Indian labourers, who are mostly unskilled and wretchedly poor, in the other Asian countries. The conditions under which these unfortunates have had to live have been so deplorable that these have evoked very harsh criticism from many non-Asian observers. As a result of agitation in India and abroad the Emigration Act of 1922 was passed to control emigration. So far as unskilled labour is concerned, the Government of India have assumed absolute powers conferred on them by this Act. These functions were previously performed by the Provincial Governments by virtue of powers delegated to them. With a view to dealing directly with all emigration problems in the future on a uniform all India basis, the Government of India resumed the administration of these functions with effect from 1st October 1934—and have appointed a Controller-General of Emigration for that purpose. His principal duty is to improve the lot of the already settled emigrants by entering into bilateral agreements with the countries concerned and to see that the right type of people are sent abroad under proper sanitary and economic safeguards.

It is not possible to formulate a common immigration policy for all the countries in Asia, the local circumstances being widely different. Much of the present difficulty we have seen, is due to the fact that the immigration policies of most of the Asian countries have been designed in the interests of the ruling powers. When the dependent countries in Asia are free they will find the proper atmosphere to discuss the common difficulties from an independent perspective. The very fact that they are the masters of their own houses will

give an added dignity to the parties concerned and help them to approach the issue with an eye to the greater cause of Asia. Greater and greater use may be made of the bilateral agreements to the benefit of the parties involved.

In fairness to the immigrant countries it must be said that once the immigrants have been settled in their new homes, they must not clamour for help from the mother country in any and every difficulty. They should identify themselves with the people of the country where they settle down and share with them a common fate. One can ill afford to forget how the totalitarian powers invented convenient excuses to further their aggressive designs on the plea of looking after the interests of their emigrant population. But it is equally important to bear in mind that if the immigrants are always treated as foreigners and made the victims of discriminations, they are left with the only alternative of looking to their country of origin for help and succour in times of distress.

The problem, undoubtedly, bristles with immense difficulties. But having so much in common among themselves, including cultural ties and affinities, the Asian countries may steer clear of conflicts if they rise to the height of looking at the issue from the objective point of view of a larger interest affecting all, and give a wide berth to the anti foreign agitation fed by pure emotion. When the economic necessity of any country demands the exclusion of aliens, due care should be taken of the fact that persons who have been carrying on reclamation work for decades and have been inextricably bound up with the fortunes of that country are not thrown out. They richly deserve to be treated as nationals.

Of course a great deal depends upon the extent to which the immigrants can live down their reputation not only as capitalist exploiters but also as underlings of the economic imperialism of the Western powers. The existing bitterness between the immigrants and the nationals may be largely attributed to the fact that Western capitalists had used the oriental immigrants as intermediaries between them and the natives, who in desperation made the intermediaries responsible for all their economic troubles.

In the wake of the new revival, all the Asian countries heretofore of past prejudices and bitterness, should try, with abundant courage and commonsense to come to an understanding with a view to paving the way towards the ultimate unity of mankind wherein lies real peace.

ASIAN RELATIONS  
CONFERENCE

*March—April 1947*

INDIA AND INTER ASIAN  
TRANSPORT AND  
COMMUNICATIONS

by

Nalinaksha Sanyal

GROUP C ECONOMIC DEVELOPMENT & SOCIAL SERVICES

TOPIC V : AGRICULTURAL RECONSTRUCTION & INDUSTRIAL DEVELOPMENT

INDIAN COUNCIL OF WORLD AFFAIRS  
NEW DELHI

NALINAKSHA SANYAL is member, Policy Committee on Transport Post-War Reconstruction Committee of the Government of India, and Author of *Indian Railways*

theologists, and then developed into commercial and political leading to colonisation and conquests. During the reign of Ashoka, grandson of Chandra Gupta Mourya, India became an important centre of international interest. Ashoka's messages and ambassadors went to Syria, Egypt, Macedonia, Cyrene, Epirus etc. conveying his greetings and Buddha's message. They were also sent to Central Asia, Burma and Siam and Ashoka's own son and daughter, Mahendra and Sanghamitra, went to Ceylon. Students from various countries abroad were attracted to Indian Universities, specially to Taxila and Nalanda and Indian Colonists are known to have penetrated into distant territories such as Khotan in Central Asia, Madagascar off the coast of South Africa and Formosa on the China coast. 3

All these inter-Asian and international contacts had been possible as much through the adventures of pilgrims, scholars and explorers as through commercial travellers and invaders out for territorial expansion. It is hardly necessary to point out that these contacts had been conditioned by the possibilities of transport and communications during the period. In the North, trade, travellers and invaders passed overland while in the South and the East the Sea and India's maritime enterprize provided the necessary opportunities for intercourse. Hsuen-Tsang, the famous Chinese Pilgrim who came to India in the 7th Century, travelled overland by a circuitous route across the Gobi desert and after passing through Turfan, Kucha, Tashkent, Samarkand, Balch, Yarkand and Khotan crossed over the Karakoram on the Himalayas. He is reported to have returned the same way. This was a long and hazardous route full of peril and yet long succession of pilgrims and scholars journeyed through this between India and China for a thousand years. The other route followed was by the Sea via Indo-China, Java, Sumatra, Malaya and Nicobar Islands. Yi-Tsing, another Chinese pilgrim, followed this route via Shriboha or Palembang in Sumatra and reached the Indian port of Tamralipti (modern Tamluk) at the mouth of the Hugli on the Bay of Bengal in 671 A.D. It appears from his and other accounts that there was at that time regular navigation between India, Iran and Arabia on the West and between India or Ceylon and Malaya, Sumatra, Java, Siam, Cambodia and China on the East. 4

2 Jawaharlal Nehru: Discovery of India - ch. V- Nationalism  
Internationalism under the Guptas.

3 R.C. Majumdar: Ancient Indian Colonies in the Far East

4 Jawaharlal Nehru: Discovery of India - ch. V.

## Contacts under Hindu Imperialism

Hindu Imperialism under the Guptas gave a great fillip to the colonising and maritime activities towards the farthest east from Bengal, Kalinga or Orissa and the Coromandel. On the north the Greek, Turkish, Afghan and Moghul conquests and military expeditions resulted in a rapid development of India's international contacts with the Middle East and Central Asia. The principal land routes then followed were through the passes on the Hindukush and Sulaiman ranges leading from Kabul and Kandahar

The activities of Indian colonists and empire-builders in the Eastern Archipelago cover a period of about fourteen hundred years upto the 15th Century A.D. In the 8th Century the greatest of the states in Malayasia, the Sailendra empire of Emperor Sri Vijaya flourished over a vast territory of land and sea. In the 14th Century the State of Java came into prominence and Sailendra empire yielded place to the Majapahit empire. Shortly thereafter Islam began to extend its hold over the Malaya Peninsula and the Islands. Malacca rose into prominence as a great centre of trade and an important seat of political power. This Islamic power finally put an end to Majapahit towards the end of the 15th Century and early in the 16th Century the Portuguese under Albuquerque conquered Malaya with their superior sea-power. 4

Thus, even during the Pathan and Moghul rule of India, her intercourse with various Asian countries through trade and diplomatic exchanges of ambassadors or emissaries which were begun in the early years of the Christian era, were continued. This contact was of greater or less degree under different rulers as the internal situation in India permitted.

## Early Transport and Communications

Simultaneously with the expansion of India's inter-Asian contacts the necessity for more improved transport and communications were felt and various routes out of India were explored. The old caravan route over the Pamirs through the Karakorum pass and Khotan was too much full of peril for man and beast and the roads through Khyber and Bolan passes converging into Afghanistan were opened out with remarkable engineering feat. Pilgrims through Badrikasram from Hardwar, Mussorie and Almora to Manassarovar opened out a new route

for contact with Tibet and China. Regular courier services from one part of India to another linking up distant places were developed and these were extended to establish a few diplomatic channels of communication between the ruling powers in different parts and neighbouring states. By the 15th Century A.D. such contacts are known to have covered not only the Asian countries including China, Cambodia, Siam, Java, Malaya, Burma and Ceylon but also Abyssinia, Egypt, Arabia, Persia, Greece and even Portugal.

Shipping activities and ship-building industry developed in a remarkable manner between the Sixth and the Sixteenth Centuries and for nearly a thousand years India retained a pre-eminent position in the world of commerce, thereby attracting the active interest of newly growing maritime nations of Western Europe, the Portuguese, the Dutch the French and lastly the English. Foreign travellers who visited India towards the end of the 13th Century, including Marco Polo have left glorious accounts of India's maritime trade and also of the construction of Indian ships. Some of the ships were so large as to require a crew of 30 men and many of them carried five to six thousand baskets of cargo. 5 During the Moghul period considerable attention was devoted to the strengthening of the navy as much to prevent piracies on the sea as to ward off occasional inroads into the waters of India by foreign adventurers. Thomas Bowrey, an English traveller to India, during 1669-1679 A.D. has left a valuable account of countries round the Bay of Bengal in which descriptions have been given of boats and ships 'which were among the best of their kind for the period'. 6 From the end of the 17th Century Indian Shipping began to be steadily thrown out or replaced by the mariners from Western Europe and when the British gradually managed to have a grip on India they barred all the doors and sought to close all the routes that connected India with her neighbours in Asia. New routes were opened across the seas which brought India nearer to Europe, particularly to England, but there were to be no further contacts overland between India and Iran, Central Asia, China and Burma. This sudden isolation from the rest of Asia has been one of the most remarkable and unfortunate consequences of British rule in India. 7

5 R.K. Mookerji : History of Indian Shipping - Book II. Ch. 1

6 Thomas Bowrey : A Geographical Account of Countries round the Bay of Bengal, (1669-75)

7 Jawaharlal Nehru : Discovery of India - p.159

## Last Global War and India's Pivotal Position

It appears, however, that the wheel of fate has at last turned and a new chapter in the history of India is being written. The last Global War has once more brought to prominence the strategic and pivotal position of India, and all the oppressed nations of Asia, including China, Indonesia, Indo-China and Iran are looking towards India and to one another for help and co-operation. The development of airways makes it possible to renew old contacts and it is high time that the routes between India and her neighbours by land, by sea and by air should be re-examined and a planned development thereof be undertaken.

By the middle of 1940, when France fell and active war from in the West extended over the Mediterranean to North Africa India became an important source of supply of men and materials for the Allies and the Indian Army was called upon not only to re-inforce the British units in Iran, Iraq, Ethiopia and Egypt but also to undertake most of the major fighting on the desert fronts of Libya and Tripolitania.

In June 1941 Germany attacked Russia and in a few swift Blitzkrieg campaigns smashed up most of the USSR supply lines on the west from the Baltic to the Black Sea. In December 1941 Japan plunged vigorously into the war against America and Britain and in three months the Japanese Navy, Air and Naval forces overran the entire Eastern and South-eastern part of Asia and brought under their control an immense land and water area, including Burma, Malaya and the Andamans. Japanese Navy and Air forces broke into the Indian Ocean and brought about serious dislocation in the traffic by the sea routes to India, the Persian Gulf and the Red Sea. They were also knocking at the northern portals of Australia. 8

For the Allied counter-offensive in East Asia India had to be made the principal base of operations and, apart from the sea routes, supply lines overland and by air had to be developed. Civilian refugees and retreating army from Burma forced their way through the mountain and jungle barriers between Burma and India and thereby demonstrated the possibilities of three overland routes between the two countries, namely, Ledo-Tytkina, Tamu-Imphal and Rangoon-Akyab roads. Similarly on the west, railway extensions upto



the farthest possible frontiers of India are pushed and the roads through Persian and Afghan territories to Russia were vigorously pursued. Earlier, between 1937 and 1939 the Chinese Government, apprehensive of coastal blockade, had undertaken the construction of a highway into Burma and about 1,50,000 Chinese men and women literally cleared the Burma Road out of the sides of Mountains and through deep forests from Kunming to the railhead at Lashio. This road was officially opened in January 1939 and by 1941 the monthly average traffic by this road rose to about 12,000 tons. Early in 1942, however, the Japanese conquest of Burma blocked the outlet from the Burma Road below Lashio and Mandalay. In 1938 the extension of the Burmese railway beyond Lashio along the alignment of the Burma Road was also commenced but this project had to be abandoned for want of materials. Three years later a motor road from Sadiya in Assam to the Sikkim province in China had been surveyed but could not be proceeded with. Nor was there much need for such a hazardous road across the Eastern Himalayas when heavy American Aeroplanes made it possible to fly 'over the hump' from bases in Assam to Kunming and Chungking substantially large quantities of war materials for China.

### India's Present Outlets

A brief description of the routes between India and her Asian neighbours by land, sea and air may now be undertaken.

#### Land Routes

The overland routes from India to her immediately neighbouring countries remained neglected and undeveloped for a number of centuries due either to natural difficulties or to strategic reasons. As has been stated earlier, many of these began to receive attention only during the last few years of the Great War. When Rangoon was attacked by the Japanese invaders in February-March 1942 a large number of Indian refugees trekked through the hazardous jungles and mountains of the Arakan and Pegu-Yoma Mountains. Since then the Arakan Coastal Road, from Chittagong to Akyab and thence either to Mawlaik or through An and Taungtha to Prome and on to Rangoon has become recognised as the nearest Land route between Lower Burma and India. Although this route has some strategic importance as providing nearest overland connection between Rangoon and Chittagong and is likely to provide an important link in the eventual land route to Bangkok in Siam from India, it does not appear to hold out much prospect for peace time commercial traffic so long as the sea route from Calcutta and Chittagong to Rangoon remains undisturbed. The portion of

the road beyond Mangdaw, in Indian territory, the construction of which had been undertaken during the War by the military, has, therefore, been abandoned and the road between Chittagong and Maungdaw has ceased to receive due attention.

The second route connecting Burma with India, which also has been opened out to meet the exigencies of the War, is the one connecting the rail-head at Dimpur (Manipur Road) in Assam with Imphal in Manipur State and with Mandalay in Burma. Two alignments have been followed for this route, one along the Khoima-Imphal-Palel-Tamu main road and thence to Kalewa and the other traversing the Moniour Valley to Chin Hills and thence via Tiddim and Kalembo to Kalewa. This road passes through productive forests and fertile areas away from the sea but with much economic possibilities. It provides the shortest connection between India and Uoer Burma and has comparatively gentler gradients. It is, therefore, believed that as a permanent link between India and her eastern neighbours this route will afford the best opportunity during peace-time. 9 The third important overland channel of communication on the eastern borders of India runs through the Ledo-Burma Road, known as the Stilwell Road, which starts from the railhead at Ledo in North East Assam and following the ancient Tribute Road which Marco Polo once travelled in his explorations, traverses the Patwai Hills, over 5000 feet in height, descends to Chingbivan in the Hukawng Valley through dense forests, ascends through the 'Amber Country' near Maingwan and the 'Jade Country' around Tauma and reaches Myitkyna, the Burma Railway terminal on the northern reaches of the Irrawaddy. 10 From Myitkyna the road runs southwards to Bhamo, an important river port and navigation head from which caravan routes proceed towards China and the East. Beyond Bhamo a branch of this road runs off to Mongayung and joins the Burma Road, mentioned earlier. After crossing the Chinese border at Wanting this road proceeds to Kunming and Chungking. Beyond the Burmese frontier the road passes over a series of formidable mountains and plateaus and negotiates steep gorges, climbing to a height of over 10,000 feet at Kaoli Kung and dropping down to about 2,000 feet to get across Salween river, rising again to 8,000 feet high at Paoshan. Therefrom once again the road drops down into the Mekong gorge and rises upto about 10,000 feet to cross the Tali Plateau which leads on through easier gradients over Yunan to Kunming. From Kunming to Chungking is another run of about 1000 miles through hills and valleys. By January 1945 the entire road from Ledo to Chungking was completed as

9 Major-General A.C. Chatterjee who, as one of the Ministers of Nataji Subhas Chandra Bose had an opportunity of studying this route closely, is of this opinion  
10 C.C. Bose - Routes to India - an article published in Vol I, No. 2 of Quarterly Journal - India & World Affairs.

the great all-weather arteril supply line to China and thousands of tons of war materials moved through the same.

It is hoped that this Indo-Burma-China all weather road will not only prove of great strategic importance, linking as it does two of the biggest countries in Asia, but will also be of great value in renewing cultural and commercial intercourse. Unfortunately, however, the section between Lashio and Myitkyna was built in the hurry of military exigencies through rather inhospitable territory, too much to the north, where rainfall is so heavy and commercial possibility so poor that the maintenance of the road during peace time must be very costly. It is understood that the Government of India has, therefore, allowed the road to fall into disrepair and as Dr. Dudley Stamp, who had recently visited the Ledo area observed, the nature of country there with torrential rains and galloping growth of forests was such that it might not remain any trace of the road after a few years if the present policy of Government did not change. The Burma-China section on the other hand bids fair to retain its position of importance even during normal times of peace and considerable amount of trade in Silk, precious metals and wool from China and in jade, amber and artistic treasures etc. from Burma is likely to move regularly over the same.

North of Ledo a pack trail runs from Sadiya to Tali over which porters carry small loads to China. The route is at places so steep and perilous due to raft bridges that even pack animals cannot be used and there is thus little prospect of this track being of much value in peace time. A motor road from Sadiya to the Sikkim province in China was surveyed during 1942-43 but the project had to be abandoned as involving almost insurmountable difficulties. It may not be out of place to mention here that a very important overland connecting link between Burma and Siam, the Siam-Burma Railway had been constructed by the Japanese during 1942-44 utilising prisoners of war and slave labour. This line took off from Nakhon-Patam to the west of Bangkok on the Siam-Malayan Railway and passed through Pru Kasi and Tambuzi in the Me Klong Valley, crossed the Siam-Burma border over the three Pagoda Pass and joined the Burmese railway at Thanbyuzayat above Ye south of Moulmein. This railway had brought Rangoon and Calcutta at least one thousand miles nearer to Siam and Indo-China and linked up the Burmese railway system with the Chinese railways through Szechwan and Indo-China, joining the Cantow-Hankow Railway at Nengyang. 11

now hangs in the balance. When British forces took over the line from the Japanese many of the bridges, which were made of wood extracted from the adjoining jungles, were thought to be unsafe and were demolished. Consequently, there have been many breaks and through traffic was abandoned. From latest reports it appears that the impenetrable jungles of the Burma border are slowly but surely devouring the line and there will hardly remain any trace of the human efforts and huge sacrifice made for its construction unless measures are taken early for the maintenance of the line. Unfortunately, the authorities are sceptical about its commercial value to Burma. An attempt, however, is being made to interest Government in a scheme to take over the railway and work it, partly for the benefit of the slave labourers who helped to build the line and the dependants of those who laid their lives during its construction 12

Following the land barriers on the frontiers of India from East to West the next outlet is found in the old Indo-Tibetan Trade Route between Yalimong in the Darjeeling District of Bengal and Lhasa the Capital of Tibet, through Gangtok, Yatung, Phari Jong and Gyantza. The road crosses the Himalayas at a number of passes the highest of which, the Jelapla, can only be negotiated during about four months in the year. Beyond Lhasa one road goes towards the east to Chamdo the capital town of Eastern Tibet on the Mekong river, and thence to Ta-Tsien-Loo, Sui-fu, Schechuan and Chungking in China. Another track runs northwards to Cheku or Jeykundo, the northern town of Tibet and further on through Tsaidam, Koko-Nor and Sining-fu to Lanchow where it meets two great roads - one to the east to Peking via Ningsia and Pao-Tao and the other to the North-west to Urum-chi (Tihwa) and Alma-Ata on the Russian Turk-Cib Railway in Kirgiz. 13 A third track, which is more or less a Caravan route only, runs from Lhasa towards the west along the Sango valley, to Manasarovar, which is an important pilgrim centre both for Hindus and Buddhists. Here another set of trans-Himalayan routes out from India converge. These routes start from Almora or Nainital hills Mussorie or Rishikesh - Tehri Gharwal ranges and Simla hills. From some point on the Lhasa-Manasarovar track there was an approach to Nepal through which a few centuries ago the Chinese led a military expedition to Khatmandu. There is no report of the existence of this route any longer.

12 The Statesman - Calcutta Edition - Sunday, January 26, 1947.  
13 Obtained from accounts given by Raja Mahendra Pratap during interview on 30-1-47.

Between Tibet and India a good amount of trade goes on, specially in wool, musk, skins, borax and some gold in exchange for brick-tea cotton and silk piecegoods and various consumers' goods for which the demand in Tibet has been on the increase during recent years. Of different land routes to the north across the Himalayas the Lhasa-Gangtok road bids fair not only to retain its position as the most important channel of contact between India and her northern neighbours but also to develop into an important overland commercial route to China. During the last War this route was actually used for some months for the supply of war materials to China from India, when the Burma Road from Lashio to Kunming was dislocated through Japanese bombing.

On the West of Manasarovar and Simla ranges the route across the Himalaya Mountains lies through the Karakorum pass, 18,000 feet high. This is the ancient line of contact through which the renowned Chinese pilgrim Hsuen-Tsang travelled to India in the 7th Century A.D. and by which scholars and traders between China, Central Asia and India had maintained regular contacts for several centuries. Starting from Srinagar in Kashmir on the Indian side the Road proceeds through Sonamarg and Zori La, the first mountain pass at a height of 11,300 feet. Leh, the headquarters of Ladakh on the Upper Indus Valley, Chang La, the second pass at 18,400 feet and Yarakorum Pass at 18,300 feet. After crossing Karakorum there are two tracks one through Hindu Tash in Kuen Lun mountains and the other through Sanju Pass (16,700 feet) both leading to Khotan (4,700 feet) in China. From Khotan one ancient route goes towards the east and north-east skirting the Takulamakan desert and connecting this part of China with Hami, Siam and Lanchow on Hwangho river and thence to Peking. Another road runs to the West towards Russian Turkestan through Yarkand, Kashgar, Osh and Andizan on Central Asian Railroad, and therefrom through the Central Asiatic steppes and Russian Turk-Sib railway one can reach Alma Ata the railroad on Russian territory from which runs the famous Red Road, the great east-west road into China north of the Gobi Desert. 14

Further West on the Himalayan ranges over the Pamir lie a few extremely difficult snow-bound passes on routes emanating from Gilgit area the last British Indian outpost on the north-west of India. These lead to Badakshan, Kashgar, Tashkend, Ferghana and Tadzhik.

The routes across the Pamirs are all hazardous and costly, and only with the help of mule caravans. Every year a large number of animals and men lay their lives on the way and the prospects of developing commerce and international contacts through these routes appear to be rather poor, although, historically, there have been the oldest communication channels between India and China.

Central Asia is largely a country of deserts exemplifying the peculiar geographic type in which the topography, vegetation, animal life and human civilisation have all been conditioned through prolonged aridity. The area varies in elevation from the low depression of the Caspian Sea and the small basin of Turfan lying three hundred feet below sea level in the very heart of Asia to the plateau of Tian Shan, Tibet and the Pamirs at elevations of 10,000 to 20,000 feet above the sea. The mountainous parts are comparatively wet and covered with vegetation, but the level lands are intensely dry and almost absolutely desert. Politically the area is divided under the administration of several countries, Persia, Russian Turkestan, Afghanistan, Tibet and China and the nationalities are varied in race and culture. Yet, the habits and customs of the inhabitants over large parts possess distinct similarity bearing the impress of an arid climate. 14 At one time the seat of great culture and wealth, Central Asia, has through the operation of natural causes undergone severe climatic changes rendering a large part of the country arid and inhospitable. Unless some hitherto unexplored source of economic wealth is discovered there is little likelihood of notable commercial intercourse developing between India and her north-western neighbours, but the growth of Soviet power in the immediate vicinity of India and consequent urgency of maintaining the routes for strategic purposes cannot be ignored.

The next set of overland routes are those crossing over the Hindu-Kush and Sulaiman ranges between India and Afghanistan. Strategically and commercially these have been the most important routes connecting India with her Asian neighbours and it was through these routes that the Aryan settlers of India as well as the hordes of invaders from the West had entered. A network of excellent roads and railways have now been constructed in the North-West Frontier mainly to enable quick movement and mobilisation of military forces at any point. These include the rail

heads at Malakand, Thal, Pannu, Fort Sandeman and Chaman following the borders from north to south and the road terminals at Dargai, Landikotal, Parachinar, Dattakhel, Razmak, Wana, Fort Sandeman and Chaman. The passes across the hills are at Khyber, Kurram, Tochi, Gomal and Polan but beyond India's borders only two good roads exist, one through Khyber from Peshwar to Kabul and the other through Bolan from Quetta to Kandahar. Kandahar is connected with Kabul via Ghazni and with Herat by Afghanistan's road system. Kabul is linked up with Russian territory by a road to the Turk-Sib Railhead at Termez on the Oxus and Herat is connected by road with Kushk the railway terminal in Turkeman (USSR) on the north and also with Iran on the west.

A good amount of overland trade passes between India and Afghanistan mostly in fruits - dried and fresh - wool, skins, carpets and shawls from Afghanistan and Persia and in tea, sugar, textiles and various consumers goods from the Indian side. Afghanistan and her immediate neighbourhood has for a very long time been the active ground for considerable amount of diplomatic moves by various western powers, specially Great Britain, Soviet Russia and Germany and as a result that country has been steadily taking to modern and progressive methods. It can therefore be confidently hoped that the Indo-Afghan overland routes will continue to receive great interest so far as India is concerned. Moreover, strategically these routes, close as they are to the Indo-Afghan terminals at Termez and Kushk, must be regarded as of great importance to the peace and security of India. If political complications can be overcome there is great possibility of future development of direct railroad communication between India and Russian Turkestan through Afghanistan either linking up the Indian railway terminus at Landikhana with Termez on the Turk-Sib Railway at a distance of about 200 miles only via Kabul valley or joining the rail head at Chaman with Kushk on the Russo-Afghan border at a distance of nearly 600 miles across Kandahar and Herat.

The last series of land routes out of India to the west emanate from Baluchistan and either converge at Zahidan (or Duzdoo) on the Persian border, unto which point the North Western Railway system has taken a line from Quetta, or run along the south belt from Khuzdar or Surab on the Karachi-Quetta line to the Persian road heads at Pishin via Wacchab and Urbat. The Quetta-Zahidan route

along which both a railway and a road run parallel to each other is regarded to be of great strategic importance providing direct overland communication not only to Iran, Iraq and Arabia but also to China across Persia and Russian Turkestan. During the last global war Zahidan had become a great supply centre for Russia, the Middle East and China. From the port of Karachi trainloads of war materials were taken to Zahidan via Quetta. There the goods were loaded into trucks and driven north to Meshad and to Ashkabad on the Turk-Sib Railway in Turkmenistan. From Ashkabad traffic for China used to be hauled a thousand miles north-eastwards to Alma Ata in Russian Turkestan and thence by motor trucks covering about 3,000 miles to Chungking by way of Tihwa (Urumchi), Hami, Anhsi and Lanchow on Hwangho. Long stretches of this road follow the ancient trade and pilgrimage route between China and India via Central Asia and it is a strange irony of fate that after the lapse of nearly 1200 to 1300 years China had to revert to this line of overland communication for her contact with India and Iran. From Alma Ata to Kansu border or Lanchow the road has been built by Russian engineers on modern standard to enable motor traffic in all weather but primitive and the condition of the road had been rather primitive and it used to take a long time to reach Sian (Changan) on the Wei Valley from Lanchow. It is understood that the National Government of China has been vigorously pushing several highway projects, the arterial ones being the North West system of road from Hankow through the provinces of Hunan, Shansi, Kansu and into Sinkiang and the South West system running from Hunan through Szechwan, Yunnan, Kwangsi and Kwantung.

An account of the overland routes out of India would remain incomplete if some reference is not made to the camel caravan routes over the oil-fields and deserts of Lower Afghanistan and Baluchistan to Saistan and Iran. Several tracks run to different directions from Saistan or Zahidan the most important of which are the routes to Baghdad via Kirman, the holy place of the Parsees, Iscohan and Kermansha, and the road linking up Bandar Abbas, the port at the apex of the Gulf of Oman, with Zahidan on the Indo-Persian border via Kirman. If India seeks to have greater overland contacts with her immediate neighbours on the west these routes will provide some good opportunities.

### India's Sea Routes

India with her 3,000 miles long sea coast and a central situation at the head of the Indian Ocean and the seas covered by the same has always had greater opportunities



for establishing international contacts across the sea routes than overland through roads carved out of high mountains or arid deserts. As has been noted earlier pilgrims, scholars, traders and colonists made regular and extensive use of maritime routes from India to various Asian countries on the East and the West from the beginning of the Christian era. and powerful empires were built in Malayasia and the Eastern Archipelago by Indian settlers as early as the seventh century A.D. The maritime activities of Indians and the shipbuilding industry in India reached a high degree of efficiency by the ninth century and till the advent of the Arab, the Portuguese, the Dutch and the English traders and pirates in the sixteenth century the sons of India ruled the seas between Arabia and Indo-China. 15

At present, India has seven major ports connecting her with various countries as also a number of minor ports which mostly shelter small vessels engaged in local and coastal trade. A brief description of the major ports from the West to the East is given below: 16

**Karachi:** The first major port situated at the North West corner of India is that of Karachi, the port nearest to Western Asia, Middle East and Europe. It is carved out of a natural inlet improved by dredging and reclamation providing for seventeen export berths capable of accommodating ships of 27 to 29 feet draft and four import berths allowing for drafts upto 32 feet. There are also numerous moorings for ocean going vessels and facilities for a large country craft traffic. All berths are rail served and connected directly to the North Western Railway system. As the natural outlet for North West India, Baluchistan and Afghanistan, Karachi has great scope for expansion as these territories within and outside India are developed.

**Bombay:** The Port of Bombay lies in the middle of the West coast about 570 miles from Karachi. It is an old established port with one of the finest natural harbours in the world. In three enclosed deep-water docks and four tidal berths the port can accommodate more than forty ocean-going ships of draft between 21 to 30 feet at a time. There are in addition a number of moorings, wharves and 'bunders' where ships of various capacity may rest and smaller crafts and

---

15 R.K. Mookerji: History of Indian Shipping.

16 Obtained from the Report of the Inter-Departmental Port Development Committee, 1945.

lighters may operate from. The possibilities for expansion of port facilities here are also very great, should any necessity for the same be felt in future.

Cochin: Cochin is a comparatively new port in a natural harbour on the west Coast about 670 miles from Bombay. It can take ships of 30 feet draft in stream and at the new quays which lie along an island in the harbour connected with the mainland by road and rail bridges. The port has good inland water connections but, unfortunately, contact with the rest of India by rail is limited to the capacity of one single track line. The port can easily develop into a major transit centre as trade and railway communication in the hinterland develop.

Madras: Circling round the peninsula by-passing the Ceylon port of Colombo one comes across the next major port of India at Madras at a distance of about 600 miles from Cochin. This is a small artificial harbour built out into the open sea providing accommodation within its walls for ships of upto 30 feet draft. Its layout and equipments are modern having a good railway communication with the whole of the peninsula and it can easily be enlarged to meet trade requirements.

Vizagapatam: About 400 miles north of Madras lies the newly developed port of Vizagapatam on a small land-locked harbour. When fully equipped and expanded this port is designed to take ships of upto 30 feet draft both alongside and in stream. Vizagapatam is connected with the hinterland through a good system of railways running both along the coast as well as into the interior of Central Provinces and it can be confidently hoped that in course of time this port will have a good volume of trade and traffic to handle.

Calcutta: At the head of the Bay of Bengal, about 500 miles from Vizagapatam lies Calcutta, the biggest port of India. It is a river port on the Hughli capable of admitting ships of upto 30 feet draft but having bars between the port and the mouth of Hughli which can only be crossed at or near high water. The main facilities of the port consist of three large docks, of a number of waterside quays along the river front and numerous moorings in the river from which a large amount of trade is handled direct from and to the ships. It is well served by rail and water systems in all directions and carries the greatest tonnage of all Indian ports. Moreover, there is good scope for expansion of the facilities and for enlarging the capacity should the same be found necessary in future.

Chittagong: Chittagong is the eastern most port of India situated at a distance of about 400 miles from Calcutta at the mouth of a confluence of two big rivers, the Ganges and the Brahmaputra, serving Eastern Bengal and Assam. As at present it can take ships of 21 to 25 feet draft only at jetties and in stream but the river channel is being improved to admit vessels of higher draft. The port is connected with the interior by a metre gauge railway system serving Assam and Eastern Bengal as well as by inland water courses. The facilities at the port can be easily expanded and its capacity considerably improved within a short time.

In addition to the above major ports there are a number of minor ports such as Masulipatam, Pondicherry and Tuticorin on the East Coast and Calicut, Mormugao (Goa), Baroda, Morvi and Porbandur on the West coast which can be developed into convenient sea-board outlets from India to foreign countries. In fact, some of these ports have long and interesting history behind them as playing an important role in India's maritime activities.

A study of India's Shipping Statistics and of her Sea-borne Trade reveals how steadily and systematically India's commercial contacts with Asian countries as also the position of her nationals in maritime activities dwindled down during the eighteenth and nineteenth centuries and how Great Britain came to acquire a dominant position not only in India's trade but also in her transport and communications. It is hardly possible and probably not necessary to review the course in these respects within the limited compass of the present study. A few relevant facts may, however, be cited.

#### India's Shipping and Seaborne trade

In the year 1938-39, the last pre-war year, out of a total of 4,251 vessels that entered the ports in British India with a total tonnage capacity of 11 million, British vessels numbered more than 2,300 accounting for more than 7.3 million of tonnage, while Indian vessels numbered only 290 with a total tonnage of 4,02,000. At the same time 182 Japanese vessels with a total of 7,42,000 tonnage and 163 Italian vessels totalling 885,000 tons had entered Indian ports. 17 At the end of 1939-40 the number of steel vessels of 100 tons and upwards capacity belonging to or registered in India stood at 130 only with a total tonnage capacity of 1,97,244 only.

As regards the trend of India's foreign Sea-borne trade it is notable that upto the world war 1914-18 while India sold her goods all over the world she depended very largely on the United Kingdom for her imports. The supremacy of Britain, however, was gradually declining and in 1938-39 the share of the UK in India's trade in private merchandise amounted to 30% of the imports and about 35% of her exports only while that of British Empire came upto 58% of the imports and 52% of the exports, in spite of various measures to safeguard imperial interests. Between 1914-15 and 1938-39 Japan's share in India's trade in merchandise rose from about 5.5% to 10.5% and a similar increase took place in the share of the USA. Examined regionally Asian countries among themselves secured 45% of the imports and 42% of the exports of their total merchandise trade. 18 By 1938 regions other than Europe and the USA absorbed 35% of the export of India, Burma and Ceylon and 44% of that of South-East Asia. The change in India's trade balance with the United Kingdom had been going on for a considerable period of time, since the seventies, when it exceeded 80%. The British cotton industry had lost ground to Indian and Japanese competition while the USA and Continental Europe had become important suppliers of capital goods and consumer goods. Japan's trade in the meantime underwent a radical change and by 1938 her exports became focussed on Asia, particularly on India, China and the Far East. Broadly speaking, due to various reasons, Asian countries were being gradually drawn closer to one another since the war of 1914-18 and in spite of many handicaps India's commercial relations with Iraq, Iran and Afghanistan on the west as well as with Burma, Malaya, Indonesia, Indo-China, China and Japan on the East and with the islands in the Indian Ocean showed distinct signs of revival after a lapse of four to five centuries. From the point of view of transport and communications this transformation began to influence shipping and movements and the following distinct zones of commerce began to take shape in Asia, namely, (a) Soviet zone comprising the Soviet republican territories of Siberia and Central Asia (b) Japan, Korea, Formosa and Manchuria (c) China (d) South-East Asia (e) India, Burma, Ceylon and the Indian Ocean islands and (f) the Middle East covering Iran, Iraq, Arabia and the neighbouring territory.

During the inter-war period 1940 to 1945, partly due to economic factors and partly owing to the exigencies of the Global war, striking changes both in the character and composition of India's foreign trade as well as in the

direction thereof took place. The axis countries of Germany, Italy and Japan went out of the picture. Indian industries made good strides and in several commodities such as cotton textiles, sugar, cement and iron and steel products India has no longer much need for imports. The share of USA and the British Commonwealth countries steadily increased while UK could not take much advantage of the stoppage of trade with enemy countries.

By 1942, India had come to occupy strategically a focal point in the war of the United Nations against the Axis Powers. The Indian Ocean was crisscrossed by supply lines joining the Atlantic and Pacific Oceans carrying war materials round the Cape of Good Hope as well as through the Suez Canal and India became the chief supply arsenal holding vast quantities of supplies from USA, Canada, Australia and Great Britain as also from her own factories. The key position of India in the Asian world had once more come to be fully recognised and it can confidently be expected that during coming years an independent India will give ample justification for this position.

#### Distances by Sea-routes

An account of India's sea routes can hardly be complete without an indication of the distances to be covered from some of the major Indian ports to the more important sea boards in Asia, Africa and Australia. These are given in the table below:-

Table showing Distances in nautical miles between some Indian ports and selected foreign ports

From	To	Distances in nautical miles
1. KARACHI	Gwadar (Baluchistan)	235
	Bandar Abbas (Iran)	550
	Aden	1,464

From	To	Distances in nautical mil
2. BOMBAY	Aden	1,650
	Port Said	3,026
	Cape of Good Hope	5,275
	Colombo	885
3. MADRAS	Colombo	580
	Rangoon	965
4. CALCUTTA	Colombo	1,231
	Rangoon	737
	Port Blair (Andamans)	678
	Singapore	1,630
5. GOA	Mombasa (Africa)	2,340
6. COLOMBO	Free Mantle (Australia)	3,120
	Durban (Africa)	3,646
	Mauritius	2,094
	Rangoon	1,234
	Penang	1,278
	Singapore	1,577
	Aden	2,113
	Port Said	3,489
7. SINGAPORE	Bangkok (Siam)	805
	Saigon (Indo-China)	630
	Hongkong	1,440
	Manila	1,347
	Batavia (Java)	532
	Yokohama (Japan)	3,100

It is difficult to foresee the influence that are going to affect the world shipping routes after the last Global war. New dispersal of trade and industries, shipping transport policies and international airplans of the future must all have considerable influence on their development. Whatever the course may be one thing is certain, that India, lying on the northern edge of an ocean bounded by Southern Asia, Africa, Australia and the Pacific Islands must continue to receive increasing attention of mariners of all countries. China also must have her rightful place in the maritime activities on the Asian seas. As the first step towards

this the State-owned shipping enterprise, the China Merchants' Steam Navigation Company inaugurated a Shanghai to Calcutta service via Hongkong and Singapore in February 1947. 20

### India's Air Routes War-time Developments and Post-war Plans

In establishing international contacts, however, it is air transport that is likely to exercise the greatest influence on future human relations, particularly in reviving closer inter-Asian intercourse. It was air transport mainly that had made possible the military and political conduct of united warfare on a global scale. Out of dire necessity many new and hazardous air routes had to be opened and the development of air transportation provides one of the most fascinating stories of the last world war. From 1940 to the middle of 1943 the land and sea routes directly connecting Allied territories were either blocked or subject to constant attack. Japan blocked trans-Pacific routes to China and the Far East and seriously threatened the Indian Ocean sea-routes. German and Italian air power barred the Mediterranean short cut to the Middle East and India. The United Nations were then forced to take increasingly to the air and surmounting gigantic difficulties rapid supply routes were opened across Africa, the Atlantic and Pacific Oceans to Egypt, Iraq, Iran, India and China. India, with her unique position in the very heart of the Old World, soon came to be regarded as the most convenient spring-board for repulsing Japan from China, Burma and South-East Asia and a large number of big and small aerodromes from one end of the country to the other were speedily constructed to accommodate swarms of Allied planes from RAF and the USAAF. Giant American planes soon undertook regular air transport services from Calcutta and Assam areas to Kunming and Chungking over 'the Hump' and to Burma and South-East Asia as opportunities presented and Delhi and Karachi were brought into close and almost daily contact with Iran, Iraq, Egypt and the United Kingdom. The guarding of India's North West Frontier by regular cruises on the air was substantially extended and internal air services, military as well as civil, received a great impetus.

These remarkable achievements under the stress of the last Global War were bound to forestall great possibilities for future civil aviation and for establishing closer contacts as much between India and the UK or the USA as between India and her Asian neighbours. The natural barriers of India's frontiers have been surmounted and the air route

across India from West to East has come to stay as providing an important link in the great world-air-highways of the future.

The Government of India seem to have realised the potentialities of aviation and have set themselves to deal systematically with various problems connected with its development. At a Civil Aviation Conference of representatives of Provincial Governments and States and the Central Indian Legislature held at New Delhi on 1 February 1947 the Member-in-Charge of Communications, Government of India, observed, 'if you look at the world map you will realise the unique geographical position. Every international air service between East and the West has to go across India. This special position, which gives India important advantages, inevitably involves also responsibilities. We have to take note of, and keep pace with, the rapidly increasing tempo of civil aviation development in the world. This, in practice, means the provision of facilities for international services transitting India and also speeding up our own organisation for the operation of Indian Air services to countries abroad'.<sup>21</sup> Immediate attention to the development of internal and external air transport and the problems connected therewith was therefore urged.

During the year 1946 there was considerable development in all spheres of civil aviation in India. In 1945 civil companies were operating air services for Government and worked only 2 million ton miles capacity in the year. From 1st January 1946 civil air services were restored to commercial operation and by December 1946 provisions were made for operating 13 million ton miles in a year. In January, 1947 five companies were permitted to operate 15 services covering 14 internal routes with a total mileage of 11,608 miles, while the post-war plan of the Government of India provided for 11,000 miles of air-routes with a total annual transport capacity of 17 million tons in the initial stage of development.

On July 1, 1946 there were four operating companies employing 19 large and 6 small transport aircraft and 14 air transport companies were registered with a total authorized capital of Rs.27 crores. On 31 January 1947 there were 22 companies with an authorised capital of Rs.42 crores registered in India, and 7 others with a capital of about Rs.13 crores were under contemplation. Government had so far sanctioned the issue of Rs.9.7 crores only and five of the companies were in actual operation.



The policy pursued by the Government of India so far has been generally to promote the development and operation of air transport services by a limited number of sound and reliable private commercial organisations with their own capital, operating under normal commercial principles. All operation of air transport services, was, however, to be subject to licensing by a Board appointed by Government. The object of such licensing was 'to secure order in the air; that is to ensure the safety and reliability of services, to eliminate uneconomic competition, to prevent the exploitation of the public, to conserve and utilise the national resources for the optimum benefit of the country.

The question of nationalisation of air transport thus appears for the present to have been relegated to the background, so far as internal services are concerned, and Government is following a policy of encouraging private enterprise through 'chosen companies' working under strict Government control. It is claimed that this policy in the initial stage has been justified by internal air transport already having outgrown immediate post-war target. Where the country lags, however, is in external services and it is understood the State is contemplating to undertake the same itself through an autonomous corporation.

For dealing with international aviation the Government of India ratified the Chicago Convention on civil aviation in supercession of the previous Paris Convention and sought to enter into bilateral agreements on the basis of complete reciprocity in the rights given.

Upto February 1947, one such agreement between India and the USA was concluded and negotiations were going on for bilateral agreements with Netherlands and the United Kingdom. With India's immediate neighbours also, namely, Afghanistan, Iran, China, Burma and Ceylon, Government hoped to conclude similar agreements in the near future. Meanwhile air services between Calcutta and Chungking via Kunming have been opened and as soon as arrangements can be completed, a regular Delhi-Calcutta-Rangoon service is proposed to be introduced. 22

The air routes connecting India with other countries are at present radiating from Calcutta on the East and Karachi

on the West. These two major customs airports of India are being re-conditioned, re-organised and modernised. The approximate distances in flying hours from these two terminals to different countries are shown below:-

<u>Calcutta to</u>	<u>Flying Hrs. Mins.</u>	<u>Karachi to</u>	<u>Flying Hrs. Mins.</u>
Rangoon ..	3-15	Aden ..	6-00
Bangkok ..	5-25	Dahahran ..	6-40
Saigon ..	8-00	Baghadad ..	9-30
Singapore ..	11-40	Cairo ..	12-25
Ratavia ..	14-45	Khartoum ..	16-25
Chungking ..	10-30	Nairobi ..	21-50
Manila (via above stons) ..	23-15	Johannesburg ..	31-40
San Francisco ("") ..	64-30	Damascus ..	13-15
Darwin ("") ..	22-30	Ankara ..	16-15
Manila to Tokyo ..	6-00	Istanbul ..	17-15
Tokyo to Shanghai ..	4-00	Rome ..	18-45
Shanghai to Canton ..	8-00	Paris ..	25-15
Darwin to Sydney ..	9-00	London ..	30-00
		London-New York ..	13-00

The principal International Air Transport Companies operating or contemplating to operate air services into or through India are the following:-

1. British Overseas Airways Corporation.
2. Trans World Airways.
3. Netherlands Government Air Transport.
4. Chinese National Aviation Corporation.
5. Pan-American World Airways and
6. Air France.

Negotiations are in progress regarding the establishment of Indian air services also on external air routes as stated above.

When the network of civil aerodromes to be provided by Government is complete there will be a total of 146 aerodromes available for public use in India. In addition, a large number of aerodromes belonging to the Air Forces or to Indian States will be available for use by civil aircraft subject to appropriate conditions.

### Communications

Apart from the various agencies of transport, by road, sea and air, a great deal of intercourse between India and her neighbours in Asia has been maintained through the

Postal, Telegraphic and Tele-radio communications. A brief review of the position in these respects may therefore be undertaken.

### Postal Service'

As regards Postal communications India has been for a long time an independent Member of the international organisation - L'Union Postale Universelle - which covers practically all the civilised countries in the world including the Asian countries of Japan, China, Indonesia, Siam, Malaya, Afghanistan, Persia, Iraq and Arabia. Theoretically speaking, therefore, communications by post between India and her Asian neighbours are capable of being arranged freely in accordance with international conventions and so far as the Postal Department in India is concerned this freedom is sought zealously to be maintained. The political subjugation of India and some of the Asian countries, however, have stood in the way of the development of absolutely unfettered contacts and communications have been directly or indirectly conditioned by respective spheres of influence. Thus, in her relation with British Empire countries India has certain obligations created through the setting up of an Empire Postal Union which provides for some special terms for inter-empire postal service. Further, in regard to postal traffic to the United Kingdom and British colonies and possessions India has been influenced to entrust the carriage of her mails to a particular British shipping or air service. With the changes in political and socio-economic order that many of the Asian countries are now looking for it is time that more intimate zonal relationship within Asia should be fostered and along lines followed by the Pan-American Union special efforts should be made to set up an Asian Postal Union. This would not only enable the Asian countries to secure better terms and conditions for communications with one another but will also give them an opportunity to bring about better co-ordination between their communications and transport services. After all, it must not be forgotten that postal services depend mainly on and are conditioned by the available means of transport between two countries. Improvement in and development of inter-Asian postal communications must therefore follow necessary advances in land, sea and air transport in Asia.

### Telegraph, Telephone and Tele-radio

As in the case of postal arrangements international handling of telegraphs, telephones and tele-radio services

are mostly regulated by conventions made by the International Tele-communications Union to which practically every country in the world belongs. There are, however, some countries that have been chosen to maintain regional regulations and have kept themselves out of the direct administrative control of the International Tele-communication Union, the administrative Conference of which meets at intervals of five years. So far as India and her immediate neighbours are concerned, the Union can hardly provide that flexibility for adjustment to present day requirements which the development of tele-communications within Asia urgently demands.

Tele-communications, and especially radio communications, are intimately connected with a number of services such as broadcasting, public telephoning, maritime shipping, aviation, meteorology etc. It is therefore necessary, subject to the general control of the International Tele-communications Union, for each communications service to settle its internal questions. 23 The setting up of a Pan-Asian Tele-communications Union alone can enable the efficient and quick handling of many of the problems that the rapidly growing communications services in Asia are likely to face.

Realising the need for improving and modernising tele-radio services, specially as an aid to navigation by air, the Government of India have from 1946 taken over the administration of aeronautical radio operation and have placed it under the Civil Aviation Directorate. A five-year programme for development has been drawn up, the airway radio equipment installed in India by the USA has been purchased and a beginning has been made to establish some 50 new stations fitted with modern equipment in the next two years. A communications Consultative Committee has also been appointed with representatives of all principal airway service companies and of the Technical Committee of International Air Transport Association for working out the development and for co-ordinating the same with progress in air services.

The present study reveals how under the impact of the last Global war revolutionary changes in transport and communications in India have taken place and what are the likely routes and means for renewing India's intercourse with other Asian countries. The dawn of India's complete independence is in sight and freedom movement in Burma, Indonesia, Indo-China and other neighbouring countries has

been gaining strength. A new approach in Inter-Asian relations must be evolved without any further delay and the aid of improved and more direct transport and communications must be sought to strengthen the bonds of fellowship amongst the peoples of Asia.

### International Organisation for Post-War Transport and Communications

The aims underlying the future world order must be to develop international co-operation and to achieve international peace and security. Various problems connected with these objects require solution and are engaging attention. Asia, in particular, has to create a bulwark against Euro-American domination and to develop a real 'co-prosperity sphere' - an idea though associated with Japanese aggression and imperialistic designs, is now the least appealing. In the light of these objections attempts should be made by all the Asian countries to re-orient their international relations and policies. Transport and communications must play an important role in determining such relations.

Post-war transport and communications problems come under four broad categories namely: 24

(a) Those relating to armistice and peace treaties designed to prevent future wars and to co-ordinate new political relations and boundaries;

(b) Those designed to meet immediate problems of relief, rehabilitation and restoration of peace-time conditions;

(c) Those calculated to secure ordered development, exchange of technical knowledge and skill and regulation in the interest of public safety and efficient handling; and

(d) Those dealing with the almost baffling questions of international economic competition and security of states.

---

24 Obtained from a series of studies on International Transport and Communications by Brig.-Gen. Sir Osborn Pence under the auspices of the Royal Institute of International Affairs, published between 1942 and 1946.

Each form of transport and communications in the post-war period has its special problems coming under the above categories. Complications have also to be solved as have been due, in the Asian countries, to the alien character of present-day services and the void created through the virtual strangulation of Japanese transport. The future organisation of inter-Asian transport and communications must also be so shaped as to fit into and maintain proper co-ordination with any world organisation that may ultimately be devised under the auspices of the United Nations, having due regard to future world transport development.

So far as India is connected, it is hardly necessary to point out that in regard to inland water transport there is no international route to be worried about and with respect to overland transport, by rail or by road the problems of development and regulation of international services are fairly limited and comparatively easy of solution. The position of India's sea and air transport, however, is different and is full of complications. The situation in respect to international tele-communications services, which are of comparatively recent growth, is as yet not fraught with such difficulties. The outstanding characteristics of tele-communications is their flexibility and the need for universality, particularly as regards radio communications of all kinds. Without world-wide arrangements for the allocation of wave-lengths, both for broadcasting and for maritime and aeronautical transport services, there is bound to be chaos on the ether and 'to bring order in the Air' would become an impossibility. It is a welcome sign that most of the progressive countries in the world have realised this and are seeking to set up suitable international machinery to deal with technical problems. Political considerations, however, have been preventing real international co-ordination in the operation of the services and until international communications are regarded not as an instrument of national or imperial policy, but as an international public utility service extending facilities to all without discrimination and enjoying equal privileges in every country no complete and lasting liberation of international tele-communications is likely to be achieved.

### Air Transport

In air transport development also the necessity for world wide agreements has become increasingly evident but there is ample scope here to organize regional co-ordination. The potentialities of aviation in the maintenance

or in the threatening of the security of States have been found to be so great, specially in view of the invention of atomic bombs and rocket planes that no country can possibly afford to take the risk of permitting free international aviation even for purely civilian or commercial services. It has, therefore, been suggested that the organisation for the control of international civil aviation should function as an Air Arm of the United Nations, that is, the body responsible for international security. 25 In 1944 important decisions were reached at the Chicago Conference on international civil aviation and practically all progressive countries have reached an agreement conceding what are known as the 'first two freedoms', namely, freedom to fly across the territory of a contracting state without landing and freedom to land for non-traffic purposes such as fuelling and repairs. Agreement could not, however, be reached regarding the third and fourth freedoms, namely, freedom to land and to take up respectively, traffic between a state running an air service and any other state party to the agreement, as also the fifth freedom permitting an air service to pick up and set down traffic between different states on the route of an international air service. The USA considered this last one as being essential for providing effective loads. Divergence of policy between two groups of states was also disclosed on the question of commercial competition, those headed by the USA favouring unrestricted establishment of an international authority to control uneconomic competition by licensing international air services on some agreed basis. In these respects, therefore, international civil aviation has been left, as in the past, to be determined by bilateral or multi-lateral agreements. Traffic between two points in the same State has been left entirely within the discretion of the state concerned.

As to the future machinery for international co-operation in civil aviation a new Convention on International Civil Aviation has been set up as a result of the Chicago conference (Nov.1 to Dec.7, 1944). The Convention recognises that every State has complete and exclusive sovereignty over the air space above its territory, including that of its dependencies, and over territorial waters and has embodied the agreements reached on the regulation of aviation. The Chicago Convention marks a distinct advance over the previous Paris and Havana Conventions in as much as a single world-wide organisation has been

substituted. The difficulty of reconciling short-term national interests and hesitation to delegate any powers on major issues to an international body, however, still remain unsolved. The development of civil aviation in India and in other Asian Countries must proceed on the background set out above.

### Sea Transport

Sea transport is one of the oldest and by far the most important form of transport, carrying over three-fourths of the world's international trade. Yet its organisation and operation have been largely based on unwritten law, conceding large degree of flexibility, and it has not been possible to evolve any international machinery which can claim to guide shipping on a world basis. The regulation of shipping has been largely achieved by ad hoc measures initiated by individual Governments while certain un-official bodies with scope have been doing good work in securing uniformity of practice and co-ordination in the operation of maritime services. Among these are the International Shipping Conference, the Baltic and International Maritime Committee, the Liner Conferences, the Tramp Shipping Advisory Committee and the Tanker Pool.

The shipping industry had generally disfavoured government control or interference with freedom of shipping, but during the last quarter of a century there has been a definite leaning towards increasing government control and subsidisation and some states have even gone in for ownership or nationalisation on economic as well as political grounds.

The future of international shipping relations must take note of various functions, regulatory, commercial and those for ensuring security. Problems connected with international maritime transport include international machinery for securing co-ordination and adjustment of disputes, international law relating to high seas, territorial waters, maritime canals, straits, ports and rivermouths, salvage at sea, arrests at sea, maritime liens and mortgages, shipowner's liability, general average, marine insurance, technical and safety questions, labour, health and quarantine regulations and shipping during war. A number of agreements and conventions in regard to the above under the auspices of one or other of the international organisations mentioned above or under the terms of international treaties have so far guided and regulated international maritime activities.



At the present moment many of these problems are likely to be brought under review in connection with the signing of Peace Treaties and the working of the UNO. Since national legislation is required to give effect to agreements on the questions noted above an official international organisation consisting of government representatives appears to be necessary. The main problems with which nations are faced are not technical but political and economic. For instance, the reservation of coastal trade to national shipping has come to be recognised as a national right, which has been freely exercised by states desiring to assist their mercantile marine. The future international machinery for regulating sea transport should therefore be one set up at the instance of the states or by the UNO. India and her Asian neighbours must now assert their rights in the counsel of nations and see that powerful interests may not sabotage their reasonable demands.

The future organisation for the guidance of international transport and communications will have to deal also with a number of miscellaneous subjects and India must take due note of them. The principal subjects coming under this category are co-ordination of different types of transport, competitive and complementary, passports and customs requirements, joint station terminals operation, international public works construction and maintenance, pipelines and electricity transmission service, technical skill pooling and standardisation of equipments and collection of statistics. The governments of India and her Asian neighbours would do well to get ready with their own proposals in connection with all such questions so that they may not be caught un-ares and may not have to depend only upon the advice of foreign experts while dealing with them in international sphere.

### Conclusion

In the above study an attempt has been made to give a concise and objective review of the past and present position of India's transport and communications in so far as her Asian neighbours are concerned. The main object of this is to invite due and timely attention to an aspect of international relations the importance of which is drawing together the peoples of the world cannot be exaggerated. The sine qua non for establishing international unity and collaboration for advancement of human well-being, however, must remain not so much in international organisations or machinery as in inspiring confidence and goodwill amongst

various states, big and small.

The present Asian Relations Conference, the first of its kind held on the eve of great changes in the political structure of the world and when India is on the threshold of independence, will, it is sincerely hoped, lay solid foundations for the establishment of such confidence and fellowship amongst the peoples of Asia. The present review seeks to point out the way to revive and to foster the relationship of love, friendship and cultural affinity between India and her neighbours, which, through ages, has been cherished as the most sacred heritage of India's glorious past.